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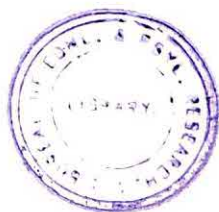
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SOME LESSONS FROM AVIATION PSYCHOLOGY¹

J. P. GUILFORD

University of Southern California

PRESIDENTIAL addresses before psychological associations have usually conformed to one of three patterns. In former years, the incumbent frequently took advantage of the occasion to expound and to promote some point of view, carrying some new banner representing a new movement in the turbulent competition of interests that has characterized the history of psychology. In more recent years, one type of speaker of the occasion has given public expression to thoughts upon the nature and needs of our profession. Another type of speaker has summarized the outcome of years of study in his unique area of contribution to our science.

Tonight I have no new school of psychology to propose; no new organized thoughts upon our profession; and no summary of personal contributions. I propose, rather, to pass on to you for what they are worth, some reflections upon experiences encountered during some four years of contact with psychological services in the Army Air Forces during the recent emergency, together with some impressions and conclusions. This choice is made with the belief that the comments are worth reporting and that there is something in them that may be of interest to those in various fields of psychology.

There will be no attempt to make a systematic coverage of the many types of services rendered or of implications for all types of psychological knowledge and techniques. Emphasis will be placed upon those aspects that came more directly within personal observation and those that are likely to be of general interest. The basic facts upon which the impressions and conclusions are based will soon appear in rather complete form in the Army Air Forces Aviation Psychology Research Reports. (†) In what follows, more general conclusions will come first and more specific findings later. The selection of items mentioned reflects largely my limitation to procedures of selection and classification of personnel and of their training. The program was much more extensive than that, including clinical and re-

habilitation services, investigations of equipment and its use, and evaluation of personnel after training and combat. I claim no personal ownership for any of the findings that will be reported here. They are the product of a large cooperative undertaking in which many individuals took part, quite a number of whom are present tonight. There is not sufficient time to provide as complete background for each statement as I would like, or to add certain qualifications in some places. If any generalization seems improbable or unfair, as stated, I refer you to the complete reports for a more direct and complete account.

My first general observation is that during World War II the profession of psychology came of age. It is now recognized as having a distinct place among the professions and as having a number of unique services to offer. At the beginning of the war this was not apparent. On the one hand, many of our own number, myself included, realized that while we had made substantial progress since World War I, there were many pressing military problems for which we had no immediate answers. On the other hand, the great majority of those in command in the armed services were uninformed as to the nature of psychology and were often tolerantly skeptical. Like many of our undergraduate students, some of them could hardly even spell the word. It was fortunate that those in command were generally favorable to the idea of research in general and that they were ready to include psychologists among their research agents. It is fortunate, I felt many times, that, being pressed with the many human problems encountered in converting an untrained civilian population into a highly intricate and technical fighting force in a short time, those in command turned to the institutions of higher learning for aid. A strong indication of the truth of my first observation is the continued and enlarged demand for psychological personnel by the federal government, particularly by its branch, the Veterans Administration.

If one entered the armed services with some reservations as to the readiness of psychologists to be of use, those reservations were soon modified. It was

¹ A presidential address read before the Western Psychological Association at San Diego State College, June 19, 1947.

evident on many an occasion that a very little psychology often went a very long way. Very often, a simple, isolated fact or principle, perhaps learned in beginning psychology, was the key to the solution of an important problem. Let no one maintain that remembering facts and principles is unimportant, for again and again the individual who had the pertinent information at hand without reference to books or notes was at a distinct advantage. Libraries, and even textbooks, were usually rather remote from military installations and combat zones, and time did not permit their utilization, sometimes, even when they were accessible.

As examples of how some very elementary psychological knowledge made an important difference when applied to military problems, I will cite some experiences from the training of flexible gunners. The flexible gunner was the man who operated a machine gun in a bombing plane. He had one of the most complex firing problems ever known. It was little wonder that during the first part of the war his record in shooting down enemy planes was very disappointing. The task of such a gunner was relatively new. In the attempt to improve his training, a great many training devices and procedures were tried. When psychologists first came on the scene, it was immediately apparent to them that certain changes would mean a considerable improvement and that prevailing evaluations of training results left much to be desired. Millions of dollars were being spent upon expensive training devices, with almost no knowledge of whether they yielded anything in the way of learning.

One basic fact of learning is that the learner makes most rapid progress when he is aware of his errors, their nature, and amount, and the greatest benefit of this awareness comes when it follows immediately after the execution of the act. Considerable effort was therefore devoted to the invention and perfection of devices that would inform the learner of his hits and errors immediately, especially in the last state of his training, in air-to-air firing; that is, firing at a simulated attacking plane. One device informed him by means of flashes of light and the other by sounds in headphones when shots were on the target. This is only one example of the many training situations in which this very important principle of learning should be applied.

Another universal learning problem was that of transfer. This problem was ever present in the use of synthetic trainers, of which there were many.

The same question arose in connection with the use of any particular training device or procedure; would things learned in practice with it prepare the learner to master more quickly his combat operations or his training at later stages? For example, skeet shooting had been adopted as a part of the preliminary training of a flexible gunner. At a meeting of training officers, it is reported, the procedure was defended on the ground that "You have to learn to walk before you can learn to run." This cliché seemed to settle the matter and little question was raised as to the effectiveness of skeet shooting as a step in the general training program. The possibility of *no* transfer effects, and even of *negative* effects, seemed not to have caused much concern. Later, psychologists aimed research at determining whether there was or was not improvement with each training procedure and to what extent it showed positive transfer effects in later performances of different kinds.

Once it became realized that the psychologist had something to offer, he was invited to take an active part in various kinds of undertakings. Because of his unusually liberal acquaintance with research techniques, he was in a strategic position to assume the leadership in comprehensive research programs that went beyond purely psychological problems. In headquarters and in policy-making conferences, he was frequently invited to participate and many types of questions were brought to him. For example, there were questions of morale. What could be done to meet the slump in motivation sometimes evident in flying personnel who had recently received their wings as graduates of flying schools in the Training Command but who must continue in a strenuous period of operational training? What could be done to improve the attitude of bombardiers and navigators who had returned from combat duty to be assigned to instructor training? What proportion of the graduates from flying training should be commissioned as second lieutenants and what proportion as flight officers? There were problems of personnel planning. How many candidates for flying training should be inducted each month in order to graduate the desired numbers in each assignment a number of months hence to man the planes that would be ready for them? What should be the qualifying scores on selection and classification tests? Should women who are given pilot training be selected on the same basis as men? How can personnel returning from combat be best utilized?

These were some of the questions on which counsel of the psychologists was sought.

One of the most important factors in making secure the position of the aviation psychologist in the AAF was the fact that he could show results in tangible terms. Care was taken from the beginning to keep full records and to validate procedures wherever possible. In this connection, it was quickly learned that generals do not want to see critical ratios, chi squares, or coefficients of correlation. There are many ways, preferably graphic or pictorial, in which the person who does not speak or read the language of statistics can be informed. With a little informal education he can also be led to make proper evaluations. It is strongly recommended that psychologists in general and those who serve agencies in particular make some effort to keep themselves and their clients informed as to the effectiveness of their efforts and to inform clients in a manner that they understand. There is no better way to assure continued acceptance or to assure oneself of one's own foundations.

One general conclusion that was brought home to us by repeated experience is that we should have greater respect for low correlations. Tradition had taught us that unless coefficients of correlation are substantial, for example .40 or above, there is too little relationship to bother with. We must face the fact, unpleasant though it may be, that in human behavior, complex as it is, low intercorrelations of utilizable variables is the general rule and not the exception. Highly valid predictions must ordinarily be based upon multiple indicators. Although each may add a trifle to the total variance of the thing predicted, by summation the aggregate prediction can mean a very substantial degree of correlation. Predictions based upon relationships represented by correlations that are very small, even between .10 and .20, may be practically useful when the conditions are right, and when large numbers of individuals are involved. If we are to place dependence upon low correlations, however, it must be remembered that very large samples are required to establish the fact of any correlation at all or to establish its size for weighting purposes.

One finding that was somewhat disconcerting is that the traditional psychological categories were so lacking in adequacy for a comprehensive and thoroughgoing survey of human resources. This held true for the typical job-analysis categories which are aimed toward a listing of distinct and irreducible

psychological functions and traits, as well as for concepts from the experimental laboratory. The two sources are of course not independent; there are many categories common to both. At the beginning of the AAF psychological program, a list of 20 abilities and other traits was adopted as a basis upon which to construct selection and classification tests. Very few of these categories, though they were useful in suggesting test ideas, held up as descriptive of genuine variables in individual differences. In their stead, there emerged a list of about 27 concepts which seemed needed to take care of the obtained results, which were mainly in the form of test intercorrelations and validity coefficients. The two lists came close to agreement at some points, but there were many startling discrepancies.

The 27 categories were derived by the procedure of factor analysis. Of all approaches to test development and to the exploration of human resources, factor analysis seems to offer the most illuminating and fruitful results. Intercorrelations of tests and of tests with practical criteria became quite intelligible in terms of common factors. Both tests and criteria could be accurately and meaningfully described in relation to the same dependable categories. I have elaborated upon the many advantages of the factorial approach in a forthcoming article (*1*) and so will not go into details on this point here. I wish merely to say that as a result of a factorial survey of AAF tests and criteria, a basis was laid not only for further material improvement in methods of selecting aircrew trainees but also for considerable new progress in vocational psychology in general. It is my firm conviction that the factorial categories and factorial theory and methods give us the stable foundation that vocational psychology needs.

The finding of 27 factors clearly indicates that the number of common traits needed to describe individuals is much greater than has been supposed. Only possibly two of these are not regarded as abilities, and the list does not include many abilities reported elsewhere. It was estimated that 20 of the 27 factors were involved to an appreciable degree in the pilot-training criterion. Incidentally, this shows just how complex a practical criterion may be. It is estimated that these 20 factors account for only about 70 per cent of the predictable variance in the pilot-training criterion. Not more than 80 per cent of the pilot-training criterion was predictable, the remaining portion being composed of error variance. How much of the unpredicted but predictable vari-

ance can be attributed to additional abilities and how much to temperamental or interest factors cannot be said.

It *can* be said, however, that the testing for pilot classification, like most testing practices, did not make the best use of the available testing time. In about eight hours of testing time, some 20 tests were administered but they covered less than half of the factors that should have been taken into account for maximal prediction. Twenty tests, at the rate of one factor per test, could take care of 20 factors, with a validity, it was estimated, of .72. Instead, the 20 tests covered eight factors with a validity of about .60.

Some specific findings concerning factors may be of interest. I will cite only certain results that were verified, some repeatedly, and that relate more directly to prewar results.² While it is believed that these findings do advance the understanding of human personality considerably, on most points it cannot be said that the final paragraph of the final chapter has been written. The method of analysis used was Thurstone's centroid extraction procedure followed by rotation of reference axes so as to minimize negative loadings and maximize the number of zero loadings.

First, to report a negative finding, there was no good evidence of a Spearman *g* factor or of any single group factor that could appropriately be called general intelligence. There were indications of intercorrelations among some of the factors and hence the possibility of second-order factors in which some investigators find support for a *g* factor. It is my belief, however, that under present conditions, with so few pure tests for any factors, we are not in a position to say definitely very much concerning the correlations among factors. The fact that a *g* factor did not emerge is not proof that it does not exist. We could, however, account for the facts very well without it.

Some of the better-known common factors reappeared in almost every analysis—verbal comprehension, numerical facility, and perceptual speed. There is nothing new to report in connection with these abilities except that it was found that a general-vocabulary test is the purest and strongest measure of the verbal factor.

One finding that promises to rank as a real discovery is that the space factor previously reported from

several sources is not an irreducible variable. In the tests that have previously defined it, there is often a separate and distinct ability to visualize and probably a second type of space factor in some of them. The more common space factor seems best definable as the awareness of spatial relations or arrangements; a spatial orientation in which reference to the human body is important. It is involved in machine operations for it accounted for about 10 per cent of the pilot training criterion and for as much as 20 per cent of the operation of gadgets in some psychomotor tests. The second space factor is ill defined at present. The visualization factor must be defined as a dynamic function, since it is most prevalent in tasks involving movements of machinery, transformations of objects, and changes in position.

A somewhat systematic survey was made of memory tests, with the result that three, and perhaps four, distinct memory factors were revealed. Thurstone's rote-memory factor was verified, although it would seem that the term "paired-associates" memory is a more exact description of it. Carlson's visual-memory factor was also verified. This factor might be regarded as a static form of visualization ability as contrasted with the dynamic visualization described above. It is a photographic or reproductive memory for visually observed material. A third memory factor may prove to be merely a specific or very narrow group factor, since it was restricted to tests requiring memorizing of pictures paired with names. There is indirect evidence for a fourth memory factor for which the hypothesis is offered that it is memory for content. It seems to be common to tests with complicated directions the after-effects of which are tested later in terms of performance of tasks as directed. It may also be evident in terms of recognition of verbal details not in verbatim form.

The area of reasoning abilities was not very much clarified by the AAF results. Evidence for three, and perhaps four, distinct factors was found. The findings do not fit very well the distinction between inductive and deductive reasoning which has been a philosophical tradition of long standing and which Thurstone adopted following his analyses. It would seem to me that hypotheses more in line with a psychological analysis of problem solving are more promising. There is a factor that became known as "general reasoning" because of its more common appearance in many kinds of reasoning tests. It was rarely entirely absent from them. I am inclined to

² More complete but brief reports of the AAF factorial findings can be found elsewhere (2, 3).

the hypothesis that this factor is the ability to diagnose a problem; to understand its nature; to see what its requirements are. Another factor was unique to tests of practical judgment and similar tests and so was given the title of "judgment." It seems to be the ability to weigh several alternatives and to reach a wise decision. These two factors would seem to represent the first and last steps of problem solving. In order to fill the gap between these two, one might expect a factor defined as the ability to think of possible solutions rapidly. Such a factor was not found, but tests that should bring it out if it exists were being constructed and administered for analysis near the end of the war.

Two other reasoning factors (designated as reasoning because they appeared in reasoning tests) seem to involve kinds of operations by which an examinee could solve certain types of problems. One seemed to involve reasoning by analogy. One hypothesis concerning the other factor is that sequential reasoning is involved; solution must come in a step-by-step sequence, one step being dependent upon another. It can be seen that we still do not know very much about the psychology of reasoning. I do not believe that we shall know much about it until a number of factor-analysis studies have been focused upon this area.

In the field of psychomotor testing, some new light was thrown upon psychomotor factors and perhaps a new factor was uncovered. A factor identified as psychomotor coordination was found to be quite general. It was found in tests requiring small-muscle adjustments (finger-dexterity tests) as well as in tests requiring large-muscle adjustments (movements of arms, torso, and legs). A second factor was tentatively called "psychomotor precision," since it was involved in tests requiring rather accurate movements under speed conditions. A third factor was tentatively called "psychomotor speed," since it was found in tests in which sheer speed of marking an answer sheet was the salient common element. It is probably identifiable with the factor found before the war in tests of making tally marks and tests of other simple repetitive movements. The relation of this factor to simple reaction-time tests is problematical. As for reaction-time tests in general, we found that when they are complicated—for example, a test of discrimination reaction time or choice reaction time—a number of factors unexpectedly enter into the scores; for example, perceptual speed, spatial relations, and even the number factor.

It is probable that the AAF experiences have written the final chapter regarding the area popularly known as mechanical aptitude. A great many kinds of mechanical tests were analyzed—mechanical knowledge, mechanical comprehension, mechanical principles, mechanical functions (and malfunctions), and mechanical movements; also other tests not ordinarily designated as mechanical in their titles but often included in mechanical-aptitude batteries—surface development, block counting, pursuit, paper form board, and the like. Repeated results show that the only thing unique to tests of an obviously mechanical nature is a factor that can be definitely labeled as mechanical information or mechanical experience. Mechanical-knowledge tests are the best and purest measures of it. Mechanical aptitude in the popular sense is not a genuine unity at all, but a composite. Other factors that are common to tests that are predictive of success in mechanical training or mechanical occupations are now fairly well known abilities that are confined neither to mechanical tests nor to mechanical jobs. Depending upon the type of test and the type of mechanical job, it can be said with some confidence that among these additional factors are visualization, spatial relations, perceptual speed, and in some, a factor of length estimation. It is time that vocational counselors and others think of jobs and tasks in terms of patterns of underlying factors, each factor with an appropriate weight. Each mechanical task or occupation has its own unique pattern of demands upon human resources. The only excuse for using a term such as "mechanical aptitude" is that it serves as a very broad generalization covering loosely collected activities having only one thing in common; that they have something to do with machines or gadgets.

A similar situation exists with regard to the popular concept of clerical aptitude. Clerks are office workers and for practical convenience are included under a single category. Psychologically, the category is rather loose and is composed of heterogeneous elements. Each type of clerk, and even each particular assignment within a type, may call for a distinct pattern of abilities and traits. It is time we extricated ourselves from these as well as other semantic traps.

Thus far, I have spoken of findings with regard to abilities. The AAF program was not by any means confined to research on abilities. My emphasis upon them is partly due to the fact that I am best ac-

quainted with that aspect of the program and partly due to the relatively greater progress along these lines. The usual greater difficulty encountered in attempting to assess temperamental and dynamic traits was also evident in the AAF. Most of the results along these lines were negative, but since most of the known procedures were given a serious trial in the selection of personnel, it is worth while to report the general outcome. There were a few promising leads. Psychologists who studied intensively the pilot in training and after combat were convinced of the importance of temperamental and dynamic traits for successful performance of duty on the one hand and for avoidance of maladjustments, operational fatigue, psychoneuroses, and psychoses on the other.

Almost all of the conclusions that I have to report are based upon procedures applied at the time of classification of trainees and follow-up studies limited to pilot trainees through their first stage of flying training. It was recognized that the most satisfactory method for validating the procedures would have been to follow personnel entirely through training and combat. Under the prevailing circumstances this was impossible. On the other hand, psychological observers were convinced that primary pilot training was a sufficient ordeal to provide experimental evidence that could be generalized beyond that stage. The criterion of adjustment that is implied in what follows was the dichotomy of graduation versus elimination in primary pilot training. The greatest proportion of eliminees (who made up 10 to 60 per cent of each class) were failed for deficiency in learning to fly. Very small proportions were eliminated by reason of fear of flying or by their own request or for physical reasons. These categories were, as we found, highly intermixed and almost equally predictable by means of tests.

Certain published tests were used on experimental groups and validated against the pass-fail criterion. These tests included interest inventories, personality inventories, Rorschach and thematic apperception tests. As a general policy, it was planned that each validation sample should include at least one thousand trainees. In some of the studies there were departures from this standard, as will be noted.

Neither the Kuder Preference Record nor the Strong Vocational Interest Blank yielded any evidence of validity that was statistically significant. Validation of single items in the Strong test failed to provide any collection of items that could be keyed

successfully for the prediction of pilot graduation in new groups of students. Other evidence showed that there was a real possibility of selection on the basis of interest, because a factor of pilot interest was isolated and could be identified. It was measurable by means of information tests and also by a score based upon biographical data. The hypothesis of Flanagan, that interest can be measured by means of information tests, was thus supported. Such a score may be very complex factorially, however, and its dominant variance may even be in another factor, frequently verbal. If information tests are to be used extensively to measure interests, steps should be taken, where necessary, to suppress the excess factor variance that they carry.

A number of the published personality inventories were given an experimental trial with pilot students, including the Bernreuter, Humm-Wadsworth, Adams-Lepley, Minnesota Multiphasic, and the Guilford-Martin inventories. Of these, three exhibited small but statistically significant validities for some scores. On the Humm-Wadsworth test, the hysteroid and epileptoid scores showed coefficients in the neighborhood of .20, based upon a sample of about 200. In both instances, a high, that is, abnormal, score correlated negatively with graduation. The Guilford-Martin Personnel Inventory showed coefficients ranging from .13 to .19 on the three scores, on a sample of more than 1000. In all traits, a good score correlated positively with graduation. The Inventory of Factors STDOR showed validity coefficients of .12 for the trait scores of cycloid and depression, on a sample of nearly 1200, a good score indicating graduation.

In spite of the demonstration of genuine, practical (pilot) validities for some scores on personality inventories, I should hesitate to recommend the use of this kind of instrument for selection to preferential appointments in the armed services or in other public agencies. Scores may be valid in spite of whatever biases the examinee is *able* to introduce and *may* introduce into his score, and yet the fact that examinees and others can maintain that scores are wilfully biased is a restraining consideration. Their use by a private agency I should say is a responsibility of that particular agency. It is the responsibility of the psychologist who recommends the use of *any* test to inform the user concerning the limitations and risks involved.

It was regarded as very important that the Rorschach test should be given full opportunity to

show what it had to offer in a personnel-selection setting. It was recognized that neither time nor personnel requirements for the routine administration and use of this test were consistent with the mass testing required. The numbers of candidates tested per day ranged from 100 to 500 in a single examining unit. Yet the test was administered experimentally to several hundred students individually according to the prescribed procedures by members of the Rorschach Institute who were serving in one of the psychological units. Two methods of group administration were also tried, the Harrower-Erickson and our own version.

The results were almost entirely negative. From the individual administration of the test, neither the 25 indicators taken separately or collectively nor the intuitive prediction of the examiner based upon the data he had from the administration of the test gave significant indications of validity against the pass-fail criterion. There were two samples, one of nearly 300 and the other of nearly 200. The Harrower-Erickson group-administration form also gave no evidence of being valid for pilot selection. The AAF group-administration form when scored for the number of most popular responses showed a coefficient of $+ .24$, based upon a sample of more than 600 students. This type of score is not only more objective than the traditional Rorschach scores but also departs considerably from the principles of the test and its use.

Another interesting result on the Rorschach test might be mentioned. Its use in the individual, customary form in convalescent hospitals has been reported. (4) In three groups (totaling approximately 150) of hospital patients diagnosed as psychoneurotic, most of them of the anxiety type, the mean scores obtained were not significantly different from the means obtained on a much larger sample of aviation students who were just going into training. The fact that it failed to discriminate anxiety cases and psychoneurotics as a group from presumably normal individuals of about the same age and the same sex is noteworthy, to say the least.

The thematic apperception test was not administered in the strictly Murray manner, but was given to students in groups of 28. Each student wrote out his stories. The "scoring" and interpretation, however, were conducted in the customary manner. Neither separate "scores" nor predictions based upon intuitions resulting from test data correlated significantly with the pass-fail criterion. A number

of variations of the projective method were tried and the results were much the same, with one exception. This exception was a sentence-completion test which was developed and experimentally tried in a convalescent hospital. Its scores discriminated very well between psychoneurotics and normals, but the scoring was not cleared of a large subjective contribution.

A group of procedures that were used experimentally in pilot selection involved observations of the student under quasi-standardized situations and ratings made by the observer with respect to several traits. Some observations were made while the student was taking the routine psychomotor classification tests. Others were made while the student was resting with three other students between psychomotor tests. Others were made while students were jointly solving a problem (the Wiggly Block test). Still others were made while students were taking a psychomotor test that involved a stressful situation. Except for the last-mentioned situation, ratings of traits and predictions of pass-fail alike failed to correlate significantly with the pilot criterion. In the case of the stress situation, prediction based upon observations and the objective score on the psychomotor test were about equally valid (with a coefficient of about $.25$) but it is not certain how much the prediction depended upon the observed goodness of performance in the psychomotor test. They intercorrelated to the extent of about $.60$.

Quite generally, it was found that intuitive judgments and predictions based upon them were quite inferior to objective scores in terms of correlation with training criteria. The clinical summarizations of data in terms of single predictions of pass or fail (more exactly, a graded prediction on a nine-point scale) were obtained in a number of ways. Some were based upon the results from a single test, e.g., Adams-Lepley, Humm-Wadsworth, or Rorschach. Some were based upon a personal interview of an hour's duration. Some were from observations of behavior and still others encompassed several of these different sources of information. None of these proved to be valid for the particular purpose intended. Furthermore, the intuitive predictions derived from different sources of information intercorrelated so low as to tolerate the hypothesis of zero relationships in many instances. Assuming that the conditions were favorable for giving psychological intuitive powers their proper opportunities, the conclusions seem obvious. There appears to be no scientifically demonstrated procedure based upon

subjective judgment that approached in predictive value the use of objective test scores in the selection of pilot trainees. There is also no indication that data can be better integrated to make a composite prediction of success by a subjective, global look at the individual than they can be by the usual statistical summative procedures which have stood the test of time and experience. There are necessary places for psychological intuitions, but they should not replace objective test results and should be resorted to only after objective procedures have taken us as far as they can.

The physiological procedures utilized particularly by Wenger in connection with his assessment of autonomic dominance were given extensive attention. His hypothesis of an autonomic factor was upheld in an aviation-student population and its relationships to psychoneurosis, to combat fatigue, and to several traits of temperament as indicated by personality inventories were shown. It would seem that Wenger has gone a long way toward establishing physiological syndromes that may be associated with nervous and glandular properties as well as with temperamental qualities. His results suggest that medical examination of military personnel might well pay some attention to *composites* of measurement as well as to single variables.

Of a number of *performance* tests of temperamental traits that were tried, very few were promising. Tests that succeeded in frightening the examinee seemed to be even more frightening to the psychologists and to the air surgeons who held the final responsibility for our work. As reported earlier, a complicated stress-situation test showed acceptable pilot validity. Whether this validity could be attributed to temperamental variables or to other factors, perhaps psychomotor, was never determined. Another test, of muscular tension while in the act of handwriting, showed some promise.

One more technique is worthy of mention. This is the use of biographical data for vocational predictions. Utilized before the war by insurance agencies and by the Civil Aeronautics Administration research agencies, biographical information, it was found by both the Army and the Navy, could be scored effectively for the selection of pilots. The AAF also found it effective in the selection of navigators. The validity coefficients were usually between .25 and .40. The utility of such a test cannot be denied, and it is recommended for general use where quick results are desired and where the neces-

sary research can be put into its development. It has certain limitations, however, that are worth pointing out. First, it is susceptible to the same kinds of biases as questionnaires and interest tests. The AAF Biographical Data Blank was administered to a senior high-school group with the instruction for the examinees to respond to items in a manner that would assure a score favorable to success in pilot training. On the average, they were able to modify their scores in the intended direction to a significant degree. Results seemed to show that under the usual testing conditions prevailing in the AAF, however, what little bias did occur did not affect the validity of the scores. Second, such a test has to be developed specifically for each selective purpose, requiring a very large sample for item validation as well as the usual sample for score validation. Experience in the AAF tends to show that biographical-data tests measure recognizable factors, factors which may be measurable by other types of tests, e.g., mechanical experience and mathematical experience. This suggests that one should try to determine those factors as early as possible and develop more unique tests for them.

In closing, I would like to make one or two additional general comments by way of extracting further implications. I am definitely optimistic about the recognition that our science and our profession have earned and continue to enjoy. I am most anxious that this recognition should endure and that it should grow, for so many of the world's persistent problems depend upon the proper utilization of psychological knowledge and procedures. We psychologists occupy a key position, for in a world that has grown so small and in a world society that has become so interdependent, the problems of human relations are most important and their solution is paramount. We have won considerable confidence in our preparedness to solve certain types of human problems. In order to maintain that confidence we shall have to continue to demonstrate competence. In order to cope with the larger human problems successfully, we shall have to demonstrate increased competence. All of this leads to the same conclusion. We must see to it that the psychologists whom we train are fully prepared not merely to fulfil the requirements as we have recently found them but to do even better than that. During this unique period with its pressure for more trained psychologists, the market is definitely in our favor. It is such as to attract able students in large numbers in our

direction. Let us recognize the fact that it requires a high level of ability and of stability to be a good psychologist and to be an effective public leader. Let us remember that of all scientists the psychologist must have the broadest educational base and the most varied and intensive drilling in logical, technical, and observational procedures. Psychologists will achieve positions of leadership and will remain in those positions by reason of sound preparation for them. If, as I have said before, psychology has arrived, this achievement is a vantage point at which even greater things are expected of us and which carries the challenge to be prepared

to make good on new promises. Whether we go forward from there or stop where we are is up to us.

REFERENCES

1. J. P. GUILFORD. Factor analysis in a test-development program. *Psychol. Rev.* (to appear soon).
2. J. P. GUILFORD. The discovery of aptitude and achievement variables. *Science* 1947, **106**, 279-282.
3. J. P. GUILFORD AND W. S. ZIMMERMAN. Some AAF findings concerning aptitude factors. *Occupations* (to appear soon).
4. *Army Air Forces Aviation Psychology Research Reports*. Washington, D. C.: Government Printing Office, 1947. (See particularly Reports No. 5, 7, 11, and 15).

THE ROCHESTER VETERANS' GUIDANCE CENTER TAKES STOCK

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BETTER vocational guidance for more people has long been the goal of educators and personnel administrators. The operation of more than 200 Veterans Administration Guidance Centers¹ under contractual agreements with educational institutions throughout the United States constitutes the most far-reaching attempt ever made to provide complete guidance counseling for a large segment of the population.

At most centers a program has been developed which includes a planned interview with each veteran, the administration of a battery of psychological tests, the interpretation of these tests in the light of the veteran's disability and expressed interests, and recommendations for educational or occupational placement.² At the Veterans Administration—Rochester Institute of Technology Guidance Center, the procedure culminates in a conference between the veteran, the R.I.T. Vocational Appraiser, and the Veterans Administration Vocational Adviser, in which all three attempt to reach an agreement on the optimum vocational objective for the veteran.

Established in March, 1945, the Rochester Guidance Center had completed the advisement of 3,579 veterans by January 1, 1947. Although thorough and leisurely research may be done after the program has terminated, the Rochester staff felt a responsibility to try to evaluate procedure while the program was at its height.

Permission was granted by the Veterans Administration for an Institute Vocational Appraiser to use the files of the Training Division of the Veterans Administration for a follow-up study of the veterans advised. The absence of records for veterans counseled under Public Law 346, except those who have entered approved training programs, caused the re-

search to be limited to disabled veterans advised under Public Law 16, regarding whom there is fairly complete information in the files. To allow time for placement in the vocational or educational objective, the data were taken only from cases of veterans completing advisement prior to May 1, 1946—six months before the beginning of the file checking on December 1, 1946.

By a random sampling method (every 10th case in the file), 200 cases were checked, representing 22 per cent of the 910 disabled veterans advised within the

TABLE 1
Permanence of Objectives of 200 Veterans Completing Advisement at R.I.T. Veterans Guidance Center

	NO. OF CASES	% CONTINUING IN OBJECTIVES	% CHANGING OBJECTIVES
Total.....	200	60	40
Psychotics & Psychoneurotics.....	71	60.6	39.4
"Normal" Personalities.....	129	59.7	40.3

period studied. Work sheets were used on which were listed the case name, present job, veteran's original objective, objective finally selected in advisement, name of school, course of training, grades, age of veteran, and comments regarding degree of success in training or reasons for failure to follow advisement.

Table 1 shows the results of comparing the vocational objectives determined by advisement with the objectives apparently being worked toward at present. Probably the most significant fact developed is that 60 per cent of the veterans studied are still continuing toward the objectives set by the guidance procedure. This compares favorably with a percentage of 55 continuing in objectives set at the University of Pennsylvania Center³, although differences in research procedure limit the comparability of the two studies.

³ Brown, Milton T. The Veterans report one year later *Occupations*, 1947, 25.

¹ Matthewson, Robert H. The advisement of veterans at college and university centers: first appraisal *Amer. Psychologist*, 1946, 1, 201-204.

² Darley, J. G., and Marquis, D. G. Veterans' guidance centers: a survey of their problems and activities *J. Clin. Psychol.*, 1946, 2, 109-116.

The wide range of disabilities among the veterans studied tends to prevent useful analysis on this basis except in the case of the psychotics and psychoneurotics, who constitute 35.5 per cent of the total sample. As these veterans with personality disorders are the ones whom employers are most reluctant to hire, it is interesting to note that their record of stability in training (60.6 per cent are continuing in their objectives) is for all practical purposes the same as that of the veterans with "normal" personalities.

In determining which of the veterans sampled were continuing in the objectives set through advisement, some minor variations of job titles and situations were overlooked. Advisement objectives were identical with present training in 106 of the 120 cases placed in this group, subjective determinations being necessary in the remaining 14. Useful comparison of this investigation with others that may be made at other centers necessitates elucidation of the criteria used.

One veteran's objective, for example, was established as Station Installer (telephone). His subsequent job, as a Shop Repairman (telephone) was interpreted as following advisement. For another man the objective of Tool Designer was chosen. He is now a Tool Maker apprentice, with cooperative institutional training at the Rochester Institute of Technology in Mechanical Engineering, which may in time make him employable as a Tool Designer. A few of the veterans advised were already working at the journeyman level, and "no need" of training was determined. Their continuation in their jobs has been considered as substantiating advisement even though they are not in training.

To determine *why* 40 per cent of the veterans counseled are not continuing in the objectives set by advisement, it was necessary to examine the records. Table 2 shows a breakdown of the various reasons for change of objective, with an indication of the percentage of those in each category having rated personality disorders. A number of the veterans sampled had recognized but not rated personality aberrations, e.g. Anxiety, mild, 0 per cent. Only those with actual disability ratings for psychosis or psychoneurosis were included in this group in the study, however.

A few examples may serve to eliminate any possible misunderstanding regarding the terms in Table 2. The category, "Change of Interests" includes the cases in which the record fails to indicate any other reasons for the change of objective. One man,

for instance, entered a business school with the goal of bookkeeper, which seemed suitable according to test and interview results. After several months, however, he requested a change to on-the-job training as a salesman, giving no reasons. Another veteran in training for six months in a piano factory production job inexplicably decided that he wanted to be a radiologist. It may be hoped that other methods of follow-up will clarify the relationship of advisement to cases of this type.

Cases of those failing in training include both institutional and on-the-job training. It is recognized, of course, that interest as well as ability may be involved in some of these cases. A further study of

TABLE 2
Reasons for Change of Vocational Objective by 80 Disabled Veterans Completing Advisement at R.I.T. Veterans Guidance Center

	NO. OF CASES	% OF TOTAL SAMPLE (200)	% OF THOSE CHANG- ING OBJEC- TIVES	NO. RATED FOR PERSON- ALITY DIS- ORDERS	% RATED FOR PERSON- ALITY DIS- ORDERS
Change of Interests . . .	21	10.5	27	8	38
Failure in Training . . .	14	7	18	5	36
Inadequate Training Situation	12	6	15	2	17
Failure to Cooperate . . .	9	4.5	11	4	44
Financial	9	4.5	11	1	11
Disability Aggravated by Training	7	3.5	9	5	71
Personal Habits	5	2.5	5	3	60
Change in Physical Conditions (Not re- lated to disability) . . .	3	1.5	4	0	0

the 14 training failures showed that test results apparently made the objective fully suitable in 10 cases, the objective being established in the other four cases in spite of somewhat questionable test results. Those failing to continue in their objectives because of an inadequate training situation include not only veterans who could not be placed locally in their chosen objectives but also those who claimed they were not receiving adequate training.

Cases listed under "Failure to Cooperate" consist of those veterans who (in spite of the possibility of obtaining \$105 per month or more from the government in addition to less tangible benefits) failed to reply to correspondence or failed to report for a scheduled interview. The veterans changing their objectives for financial reasons include those who failed to enter or continue in a school or college be-

cause of financial obligations which apparently were evaluated differently at the time of advisement. Also included in the "financial" category are those who decided to keep a high-paying job rather than enter into rehabilitation training.

Of the seven veterans whose disabilities were aggravated by training, five, or 71 per cent, were psychotics or psychoneurotics. Another was an electrician trainee with osteomyelitis, and the last was a clothing industry trimmer with a heart condition. It seems probable that in all seven cases the training *situation* may have been at fault, rather than the *vocational objective*, assuming that the veterans were employable at all.

The "Personal Habits" heading in Table 2 represents the alcoholics who were discharged for drinking or related absenteeism. One man who was discharged for obscene language is also included. The difficulty of analyzing habits in a one or two day advisement procedure seems to point to social case work and psychiatric treatment to assist with the problems of such veterans. Of the veterans experiencing a "Change in Physical Condition," two were made less employable by illness and one expected an improvement to broaden his vocational choices. In each of these cases the circumstances were not predictable in the guidance process.

Although comparison of the objective selected by advisement with the goal finally achieved is the primary test of guidance, it is interesting also to know the extent to which the advisement process causes a significant change in the vocational plans of the counselee. In a study of the latter point, the objective finally selected was compared with the objective suggested by the veteran when he originally reported to the Center, as recorded in the personal history blank, Form 1902, the Individual Survey. Using this criterion, 53, or 26.5 per cent, of the 200 disabled veterans sampled were changed materially from their original vocational objectives, while the objectives of 73.5 per cent were confirmed by advisement. It was considered a significant change if the veteran was completely undecided when he entered the Center. The case was also classified in this manner if, for example, a prospective accountant was found to lack scholastic ability appropriate for college and was directed toward business school training with the objective of bookkeeper, at a different *level* in the same general field.

Table 3 shows the difference between the group significantly changed by advisement and those

whose objectives were only confirmed. The latter group, as might be expected, was considerably more stable in training, 68 per cent continuing in their objectives, as contrasted with only 37 per cent of those whose goals were significantly changed. For many veterans a continuous guidance program may be desirable to supplement the one-stop testing and counseling service of a Guidance Center.

The information available in Form 1902, however, undoubtedly does not represent the full extent to which the guidance procedure influences and modifies the goals of those counseled. At the Rochester Center some suggestions may be made to the veteran in the brief initial contact during which the Vocational Adviser verifies the need for testing and guidance. In the comprehensive pre-testing interview with the Vocational Appraiser, there may be considerable interchange of ideas. By the time the "objectives suggested by the veteran" are recorded

TABLE 3
Effect of Pre-Advisement Goals on Stability in Training

	TOTAL		CONTINUING IN OBJECTIVES	
	No.	%	No.	%
Objectives Confirmed by Advisement	148	74	101	68
Objectives Significantly Changed by Advisement	52	26	19	37

on page seven of the eight-page Form 1902, there may have been a significant crystallization beyond the counselee's original thoughts.

Even where the veteran's original objective is merely confirmed by advisement, he should receive from the process a much clearer idea of the suitability of his choice. The graphic comparison of his abilities and interests with those of other groups through objective tests which are interpreted to him can give needed self-confidence to some and to others an understanding of vocational limitations.

One limitation of the research method used in the present study is the lack of information about the *attitude* of the veterans who have completed advisement. How the counselees themselves feel about the guidance is an important criterion which cannot be measured by a comparison of objectives. An effort has been made in the Rochester Center at the conclusion of each advisement case to ask the veteran how he feels about the guidance he has received. These and other informal reports are generally favor-

able, but the perspective and coverage are incomplete.

The Veterans Administration already contains the organization for the additional follow-up, continuous guidance, and social case work which seems indicated by the results of this investigation. Now, as the initial pressure for veteran placement is lessening, there may be an opportunity for greater emphasis on such activities. Post-advisement changes of objective may be reduced in Rochester, New York, by the procedure (initiated since the period covered by this study) in which the final selection of an objective for Public Law 16 on-the-job training is made not at the Guidance Center but in a subsequent conference between the veteran, a Vocational Adviser, and one or more Training Officers familiar with current openings in the fields under consideration. Perhaps more selective placement of the disabled could be carried still further by use of the job analyses in the files of many large employers to reconcile physical demands of the job with the physical capacities of the individual, as outlined in Form 1902b. Possibly a job analyst could be employed to advantage for situations where no such analysis exists.

Without any significant procedural changes more valuable evaluation could be made if file information were recorded in greater detail. Specifically, when a veteran declines induction into training, the record frequently states, "employed at ———; induction declined." More accurate conclusions could be drawn with very little additional effort if the name of the *job* and *reasons* for the actions were also recorded.

The relatively large number of veterans who changed objectives for no reason which is apparent in the records (listed as "change of interests") suggests that if there is any means of reducing this number, it might be through a more searching interview. Shortening Form 1902 would be dangerous, but it is possible that emphasis on thorough completion of a form which includes such items as the ages of a veteran's parents and the name and address of

his grammar school may result in more attention to the form itself than to the information most important to the particular individual. A form oriented more around major headings rather than many specific and limited questions might lend itself to more non-directive approach. Regardless of the form used, however, it should be possible to conduct a more thorough interview with full consideration of the important socio-economic factors.

SUMMARY AND CONCLUSIONS

In general, the value of advisement seems to be well supported by the fact that 60 per cent of the veterans counseled are continuing after six months or more toward the same objectives which were determined at the Guidance Center. As indicated in Table II many of the 40 per cent changing objectives did so for causes which were scarcely predictable by the type of procedure at a guidance center. Psychotics and psychoneurotics show as good a record for stability in training as do disabled veterans without rated personality disorders, although most of those whose training was affected by alcoholism had recognized personality aberrations. Veterans whose vocational goals are confirmed by tests and counseling prove more stable in training than those whose objectives are significantly modified by guidance.

In view of the agreement of vocational objectives with test results, it may be that more complete and balanced interviewing will improve the selection of vocational objectives. Continuation of guidance activities beyond the one or two days of testing and interviewing seems necessary in the case of some veterans. The need for further follow-up information might be fulfilled in part by more thorough recording of file information, by questionnaires, and by personal follow-up interviews. It may be hoped that studies of this type at other Guidance Centers will make possible a comparison between the merits of their various systems and the accumulation of data that will be a fundamental contribution to the evaluation of guidance.

DEVELOPING APPLIED PSYCHOLOGISTS

LOUIS L. McQUITTY

University of Illinois

CONTRIBUTIONS OF APPLIED PSYCHOLOGISTS

Applied psychology in some fields, such as industry, has never realized contributions equivalent to those it has now twice achieved in the military services. Both World Wars I and II realized applications of psychology far beyond those previously experienced in peacetime pursuits. After World War I, the expansion of military psychology carried over into industry with discouraging results in many cases for both industrialists and psychologists. This paper examines some of the conditions that may possibly explain some of the discrepancies in contributions in the two areas. It briefly reviews military methods in utilizing psychologists and derives from these suggestions for enhancing the contributions of psychologists in peacetime pursuits.

THE ROLE OF APPLIED PSYCHOLOGISTS

The role of applied psychologists differs in at least one significant respect from that of most other applied scientists. The subject matter of psychology—behavior—is intimately related to the many aspects of most fields in which it is applied. This is not especially true in the case of most other sciences. This intimate relation of psychology with many other aspects is illustrated by recent psychological applications in the Army. The professional army officer is concerned daily with behavior. He is continuously influencing it in others and is also continuously being influenced by the behavior of others. The direction and ways in which he attempts to influence behavior is determined, in part, by military tradition, military justice, training missions, supply priorities, and many other important considerations. If a military psychologist is to be effective in selling his programs, he must be well acquainted with all these military involvements. He must integrate his program into the military framework in such a way that the disturbance incident to his program will be minimal and the contributions maximal and obvious. These points were illustrated when the

Consultation Services, mental hygiene units, were developed in the Army Service Forces Training Centers¹. They developed as a method whereby regular training unit commanders were relieved of the responsibility of training the least responsive soldiers. This was considered by these commanders to be an obvious advantage to them because it gave them more time to train the more responsive soldiers. In addition the Consultation Service was introduced as an integral part of classification and personnel administration, with little or no self distinction. Any demands made by it on the time of the men or the commanders was identical with those of the already established classification and personnel functions, and was accepted as normal and usual procedure. This close integration of the Consultation Services into already established functions without any apparent new demands on commanders' time may be one of the reasons why Consultation Services succeeded so exceptionally well in training centers, even though an earlier and somewhat similar effort in divisions had been much less favorably received.

In order for a psychologist to integrate smoothly his proposals, as herein suggested, and thereby enhance his possibilities of having them favorably received, he must be well schooled in military traditions, policies, plans, and administration. This component qualification in military knowledge is not nearly so prerequisite for other applied scientists contributing to military developments. Applied chemists, physicists, and physiologists can serve effectively in military advancements without as great a dependency on wide military knowledge as that required by psychologists.

ROLE OF EDUCATION

The above discussion of the military services is an illustration of the fact that the applied psychologist is often dependent for progress on his possession of fundamental knowledge concerning many aspects

¹ McQuitty, Louis L., A Program for the Classification and Training of Retarded Soldiers, *Psychol. Bull.*, 1943, **40**, 770-779.

of the field in which he applies his science. The fact that most other sciences do not require a fundamental comprehension of the fields in which they are applied may be the reason why formal education has not met the need more effectively in the case of psychology. The need has been relatively insignificant in the older sciences, and has consequently been neglected in the younger science of psychology. Steps are herein subsequently suggested for remedying this neglect, but it is first appropriate to examine further the contribution of applied psychologists in relationship to their fundamental comprehensions of the fields in which they serve.

It is true that all psychologists who have made significant contributions to military achievements have not been well grounded in military knowledge. They worked on more technical problems, similar to those in other sciences. Many of them were assigned to higher headquarters, where they were relatively far removed from many significant field problems with which their contributions had to be coordinated. It is therefore highly important to remember that many of them had the foresight to see the advantage of having other psychologists serve at posts, camps, and stations where they became well-grounded in military matters and where they were effective in integrating and selling the contributions of the more specialized psychologists.

The majority of military psychologists who served at posts, camps, or stations received rather good training in many military fundamentals. This is true because military tradition, in general, operates to ensure that military men are widely and fundamentally trained before they are eligible to serve as military specialists. This tradition was operative with considerable force during the early months of the national emergency, and it is the thesis of this paper that it prepared many psychologists to sell psychology more effectively because it taught them the military framework in which they were to integrate psychological methods.

It is a further thesis of this paper that psychology has failed to reach its immediate potentials in many peacetime pursuits because a force, analogous to military tradition, is lacking which insists that applied psychologists become well-grounded in non-psychological fundamentals of the practical areas in which they apply their science. A brief consideration of some of the fields of applied psychology lends further support to this point of view. These fields are considered from the three following points

of view: (a) contributions by psychologists, (b) the extent to which fundamental understanding of non-psychological aspects of the area of application is an asset, and (c) the provisions for obtaining the required fundamental understanding of these other aspects. The search is to determine whether or not "a" is influenced by "b" and "c".

Clinical psychology requires relatively little in the way of a fundamental understanding of the non-psychological and non-sociological aspects of a specific field that is not in part given by training and practice. Psychologists are becoming relatively prevalent and successful in this area. Personnel psychology in industry, on the other hand, requires considerable in the way of fundamental understanding of many non-psychological aspects. Provisions for assuring this understanding in the course of training are relatively nil, and the contributions of psychologists in this area, as compared with clinical psychologists, are still markedly restricted. Educational administration requires more specific non-psychological comprehension than clinical, but this comprehension is acquired by the academic psychologist as he develops in the field of academic administration. In this area psychologists appear to be relatively prevalent and successful. A summary of the above indicated relationships, suggests the following points:

- (1) Applied psychologists are relatively prevalent and effective in those fields which require little in the way of comprehension of non-psychological aspects.
- (2) They are also relatively prevalent and effective in those fields which require and assure comprehension of non-psychological aspects.
- (3) They are much less prevalent and much less effective in those fields in which comprehension of non-psychological aspects is desirable but not assured.

The points just outlined indicate that the contributions of future applied psychologists can be increased in some fields by providing more training in the practical aspects of these fields. Courses at both the graduate and undergraduate level could be developed which carefully combine psychology and industry, psychology and engineering, psychology and economics, psychology and finance, and other similar combinations. These combination courses could have as their purpose (1) to develop industrialists, engineers, economists, finan-

ciers, and the like, and (2) to enhance their potential contributions by giving them fundamental training in psychology. This latter purpose is sound because all of these fields involve psychological problems, and many blunders made in the fields could be avoided by psychological understanding of the problems involved.

This proposed educational program would have several advantages. It would give the student greater opportunities for obtaining a position. Bachelor's degree training in psychology prepares the individual for no particular occupation. The same is also true, from the point of view of many industrialists, for graduate degree training in psychology. Training in engineering, accounting, economics, and business administration, on the other hand, prepare individuals for much more definitely established occupations, especially so from the point of view of industrial employers. Why should we, as psychologists, not take advantage of this present state of affairs? Why should we not accept the possibility that psychological knowledge as a supplementary qualification may achieve much greater acceptance than as the principal qualification? It might even be that this approach would turn out to represent the most expeditious growth for giving psychology a more independent occupational status. It would at least place many more psychologically trained individuals in positions where they would be confronted by psychological problems not customarily opened to those trained in psychology alone. By virtue of this fact, they would have greater opportunities to demonstrate the value of psychology. They should realize greater achievements than their non-psychologically trained colleagues, and psychology in practical pursuits would then grow or decline on its own merits.

Another advantage of the combined training, herein proposed, grows out of the fact that it would probably do much to lessen the professional frustrations experienced by some psychologists in applied positions.² It would lessen the frustrations, because it would provide psychologically trained administrators, and these would presumably encourage more appropriate atmospheres for services by those psychologists who desire to remain highly specialized professional men.

The success of the program herein proposed could eventually be further enhanced through the expan-

sion of the placement achievements of the executive office of the American Psychological Association. This office now contributes as a placement bureau for personnel trained primarily as psychologists.³

Its contributions would be expanded if it assisted in placing personnel managers, office managers, administrators, and industrial engineers with comprehensive training in these fields plus comprehensive training in psychology. Individuals thus trained and serving in industry, commerce, and engineering would create more positions for individuals trained like themselves, and also more positions for the more highly trained psychologist.

This suggestion, that a professional group take an initiative in training and placing students of occupations peculiar to other groups is somewhat atypical. It is fortunate, in this connection, that one of the areas of applied psychology is personnel training and placement. Also, in this connection, it should be remembered that psychology is atypical in the role that it plays in practical everyday life, as compared with many other subjects taught in colleges and universities. Many of the other subjects have their exact and accepted counterparts in existing occupations. This is true of advertising, accounting, salesmanship, personnel management, and many others. Psychology has much less widespread, independent occupational existence and much wider supplementary support to many occupations. It is here suggested that psychology would greatly enhance its contributions if it were to place greater emphasis, than it has to date, on its possibilities as a contributor to success in many existing and established occupations.

It is realized that many colleges and universities provide combined training possibilities of the kind herein proposed—but most of them more or less leave the chance discovery of such a program up to the student's initiative. It is here suggested that we as psychologists would further the contributions of our science if we could become more active in developing, guiding, and encouraging combination courses.

Industrial conditions are at this time particularly propitious for a program of the kind herein proposed, and if some such program is not emphasized, we as psychologists will have failed to take full advantage of the more favorable attitude with which we are at present regarded. The present more favorable

² Chase, Wilton P., Professional Frustration in Government Psychologists, *Amer. Psychologist*, 1947, **2**, 73-75.

³ Ley, Enid S., Personnel Placement Activities of the APA, *Amer. Psychologist*, 1947, **2**, 213-215.

attitude of industry toward psychology developed in part as a result of the widespread application of psychology in the military services. Since the end of combat, the interest in psychology has continued to be motivated by psychological programs for veterans and by the general air of social, economic, industrial, and international unrest. People seem to be searching for something that will aid them and their world to attain greater stability and security. Industry wants help from psychology. Psychologists will be most effective in meeting this challenge and opportunity if they are well trained in both industry and psychology. The alternative may be a repetition of what occurred after World War I. Industry might retrogress in its attitude toward psychology.

RÉSUMÉ

The theme of this paper is that psychologists can enhance their contributions in peacetime pursuits. This is suggested by the fact that their military achievements in both World Wars I and II greatly exceeded their peacetime productions. The discrepancy in contributions is here maintained to be due to a military tradition. The tradition insists that each military specialist be well-rounded in

military matters. The tradition operated to develop military comprehension and perspective in a number of psychological personnel. These persons developed militarily with the psychological programs and were therefore able to give the programs appropriate military orientation and integration. This enhanced both the acceptance and contributions of the programs. It is suggested that similar comprehensions and perspectives can be developed by applied psychologists in peacetime pursuits to the enhancement of their contributions. These could take the form of fundamental training in some well-established commercial or industrial occupation and in psychology. This would enable the students to obtain position placements not customarily filled by psychologists, but nevertheless involving many psychological problems. Their psychological training would enable them to outstrip their non-psychologically trained colleagues, to the advancement of both industry and psychology. And their successful functioning in these areas would create greater demands for individuals trained like themselves, and also for the more specialized and highly-trained technical, applied psychologist.

STIPENDS FOR GRADUATE STUDENTS IN

Special

a—Tuition, unless otherwise indicated, is for school year of approximately 9 months b—Not awarded to new students c—Approximately e—As ?—Information

INSTITUTION		ADDRESS	ACADEMIC YEAR 1948-49 BEGINS	APPLY FOR ADMISSION BY	TUITION ^a	APPLY FOR ADMISSION TO	SCHOLARSHIPS			
Psychology Dept. Specialized Dept.	ADMINISTRATIVE OFFICER						Number available	Stipend per year	Hrs. work per week	Apply before
Alabama	Oliver L. Lacey	University, Ala.	Sept. 20	Sept. 20, e	\$150 nr	Dean, Graduate School				
Arkansas Philosophy and Psychology	W. B. Mahan	Fayetteville	Sept. 14	April 1	\$150 nr	Dean, Graduate School				
Boston Graduate School	C. M. Alter	Boston, Mass.	Sept. 20	March	\$450	Dean, Graduate School	7	ex, b	0	March
Brown	W. S. Hunter	Providence, R. I.	Sept. 20	March 1	\$450	Dean, Graduate School	var	0 \$200 ex	0	March 1
Bryn Mawr	Harry Helson	Bryn Mawr, Pa.	Oct. 1, c	March 1	\$300	Dean, Graduate School	1-2	\$500 \$700 r	0	March 1
California, Los Angeles	Roy M. Dorcus	Los Angeles	Sept. 20	Aug. 15	\$70 \$370 nr	Director of Admissions	4	\$100-\$600	6 units	Feb. 20
Catholic Psychology and Psychiatry	John W. Stafford	Washington, D. C.	Oct. 1	Sept. 1	\$400	Dean, Graduate School of Arts and Sciences	5	\$400	15	Mar. 1
Chicago	J. G. Miller	Chicago, Ill.	Oct. 1	Mar. 1	\$450	Office of Admissions	3-6	\$225-\$450	0-7	Mar. 1
Nursery Sch.	Helen L. Koch									
Cincinnati	A. G. Bills	Cincinnati, Ohio	Sept. 22	?	\$275-\$325 nr	A. G. Bills	2-5	ex	0	Mar. 1
Teachers Coll.	C. V. Good			April 15		C. V. Good	var	ex	5	April 15
Colorado	K. F. Muenzinger	Boulder, Colo.	Sept. 23	Aug. 23	\$39 a qt. \$57 a qt. nr	Univ. Examiner	3-5	ex	0	Aug. 1
Columbia	H. E. Garrett	New York, N. Y.	Sept. 27	Sept. 1	\$400	Office of Univ. Admis.	3-4	\$500	0	Mar. 1
Teachers Coll.	A. I. Gates		Sept. 22		\$15 per point	Registrar, Teach. Coll.	15	var	var	Feb. 2
Connecticut	W. A. Bousfield	Storrs, Conn.	Sept. 21	April 1	\$100	Dept. Psychol.				
Cornell	K. M. Dallenbach	Ithaca, N. Y.	Sept. 15	Mar. 1	\$200	Dean, Graduate School	2	\$200 ex	0	Mar. 1
Child Dev. & Family Rel.	R. H. Dalton			April 1	\$300	Dean, Graduate School	r	ex	0	Mar. 1
Emory	M. C. Langhorne	Emory Univ., Ga.	Sept. 23	n	\$375	Dean, Graduate School	r	\$375	0	Mar. 1

OS 8 11-6

PSYCHOLOGY AND RELATED FIELDS, 1948-49

Symbols

early as possible ex—Exempt from tuition n—Not stipulated nr—Non-resident r—See remarks in right hand column var—Variable not given

FELLOWSHIPS				SEND APPLICATIONS FOR SCHOLARSHIPS AND FELLOWSHIPS TO:	RESEARCH ASSISTANTSHIPS				TEACHING ASSISTANTSHIPS				SEND APPLICATIONS FOR ASSISTANTSHIPS TO:	REMARKS
Number available	Stipend per year	Hrs. work per week	Apply before:		Number available	Stipend per year	Hrs. work per week	Apply before:	Number available	Stipend per year	Hrs. work per week	Apply before:		
r	\$500 ex	0	Mar. 1	Dean, Grad. Sch.					6	\$625 ex	12-15	n	Dept. Psychol.	20 Fellowships for whole coll.
					3r	\$400	0	Apr. 1					Dean, Grad. Sch.	"General" assistantships
				Dean, Graduate School	6r	ex	15	Mar. 1					Dean, Grad. Sch.	"Graduate" assistantships
var	\$700-\$900 ex	0-6	Mar. 1	Dean, Grad. Sch.					var	\$500-\$900 ex	10	Mar. 1	Dean, Grad. Schl.	
1	\$1000	0	Mar. 1	Dean, Grad. Sch.					1	\$900 ex	12-15	e	Dept. Psychol.	\$700 if financially needed
8 c	var. to \$750	6	Feb. 20	Dean, Grad. Div.	var	var	?	?	6	\$900 c	20	Feb. 1	Dept. Psychol.	
									2	\$1300	12	Mar. 1	Dept. Psychol. & Psychiat.	Some scholarships require special clinical training
1-2	\$600-1200	0	Mar. 1	Comm. on Schol. & Fellows	b				b					
									15	\$750-1000	15-20	Apr. 1		
				Dept. Psychol.	2	\$200 ex	8	May 1	2-3	\$200 per course ex	var	Mar. 1	Dept. Psychol.	
var	\$200 ex	10	Apr. 15	Dean, Teachers College					var	\$500 ex	15	Apr. 15	Dean, Teachers College	
2-3	\$400-600 ex	0	Aug. 1	Dean, Grad. Schl.	1-2	\$400-800	10-20	May 1	3	\$600	15	May 1	Dept. Psychol.	
1-2	\$1000-2000	0	Mar. 1	Sec'y of Univ.	b				b					
8-10	\$250-1500 ex	0	Feb. 2	Sec'y, Teach. Coll.	6	var	var	n	12	\$200-\$1500 r	var	n		May exempt part tuition
									var	\$900	20	April 1	Dept. Psychol.	
2	\$400-\$800 ex	0	Mar. 1	Dean, Grad. Sch.	3	\$1000 ex	20	Mar. 1	11	\$1000 ex	20	Mar. 1	Dept. Psychol.	
				Grad. Sch.	4	\$700, \$1200 ex	20	Mar. 1	2	\$1200, \$1400 ex	20-25	Mar. 1	R. H. Dalton	30 scholars, for whole sch.
4 r	\$700, \$900	0	Mar. 1	Dean, Grad. Sch.					2	\$100 mo	1/2 time	Mar. 1	Dept. Psychol.	Scholars, and fellows are for whole school.



STIPENDS FOR GRADUATE STUDENTS IN

INSTITUTION							SCHOLARSHIPS			
Psychology Dept. Specialized Dept.	ADMINISTRATIVE OFFICER	ADDRESS	ACADEMIC YEAR 1948-49 BEGINS	APPLY FOR AD- MISSION BY	TUITION ³	APPLY FOR ADMIS- SION TO:	Number available	Stipend per year	Hrs. work per week	Apply before:
Florida	E. D. Hinckley	Gainesville, Fla.	Sept. 15	Aug. 15	\$70 \$270 nr	Registrar				
Fordham Sch. of Educ.	W. A. Kelly	New York 58	Sept. 20	Mar. 15	\$120	Registrar	2	ex		Mar. 1
George Peabody Coll. Teach.	F. B. Davis	Nashville, Tenn.	Sept. 20	n	\$112	Registrar	10	\$500	0	Mar. 1
Georgia	A. S. Edwards	Athens, Ga.	Sept. 29	6 wks. be- fore open- ing date	\$142.50 \$212.50 nr	Dean, Graduate School	var		10	
Harvard	E. B. Newman, Sec.	Cambridge, Mass.	Sept. 27	Aug. 15 e	\$400	Dean, Graduate School	r			
Grad. Schl. Educ.	P. J. Rulon			May		Dean, Graduate Schl. Educ.	var	var	0	May
Social Relations	Talcott Parsons			July 1		Dean, Graduate Schl. Arts & Sciences	r			
Hobart and Wil- liam Smith	N. R. Bartlett	Geneva, N. Y.	Sept. 25	Mar. 15	\$17.50 per course- hr.					
Howard	F. C. Sumner	Washington, D. C.	Oct. 1	April 15	\$150	Dean, Graduate School	3	\$150	2	April 15
Idaho	W. H. Boyer	Moscow, Idaho	Sept. 15 c	May 1	\$25 c \$175 nr	Registrar				
Illinois	H. Woodrow	Urbana, Ill.	Sept. 15 c	n	\$80 \$160 nr	Director of Ad- missions	4	\$500 ex	0	Feb. 15
Illinois State Normal Educ. and Psych.	A. H. Larsen	Normal, Ill.	Sept. 13	Aug. 15	\$65	Dept. Psych.				
Indiana	B. F. Skinner	Bloomington, Ind.	Sept. 16	Mar. 1	\$85 \$300 nr	Dept. Psych.				
Iowa	K. W. Spence	Iowa City, Iowa	Sept. 20	Mar. 1	\$130 \$230 nr	Dean, Graduate College	var	ex	0	Mar. 1
Child Wel. Res. Station	B. L. Wellman			July 15	\$130 \$230 nr	Registrar	var	ex		Mar. 1
Iowa State	William A. Owens	Ames, Iowa	Sept. 15	1 qt. be- fore enroll- ment	\$138	Dean, Graduate School				

PSYCHOLOGY AND RELATED FIELDS—Continued

FELLOWSHIPS				SEND APPLICATIONS FOR SCHOLARSHIPS AND FELLOWSHIPS TO:	RESEARCH ASSISTANTSHIPS				TEACHING ASSISTANTSHIPS				SEND APPLICATIONS FOR ASSISTANTSHIPS TO:	REMARKS
Number available	Stipend per year	Hrs. work per week	Apply before:		Number available	Stipend per year	Hrs. work per week	Apply before:	Number available	Stipend per year	Hrs. work per week	Apply before:		
1	\$750 ex	0	Mar. 1	Dean, Grad. Sch.	5	\$750	18	Mar. 1	2	\$1350 ex	22	Mar. 1	Dept. Psychol.	
									2	\$700	7	Mar. 1	Dean, Sch. Educ.	
4	\$500	0	Mar. 1	Scholarships Committee										
3	\$1000	0			20	\$642.50	10	2					Dean, Grad. Sch.	
r	\$600 \$1200	0	Feb. 20	Dean, Grad. Sch. of Arts & Sci.	10	\$200-1500	4-20	n	8-10	\$1000 \$1500	8-10	Apr. 1	Dept. Psychol.	2 Fellows & Scholars.
var	var	9	May	Dean, Grad. Sch. of Educ.										Stipends based on need
r	\$400-1000	n	Mar. 1	Dean, Grad. Sch. of Arts & Sci.	var b				15c b	var ex				5 Fellows & Scholars.
									1	\$600 ex	10	Mar. 15	Dept. Psychol.	
6	\$450	6	April 1	Dean, Grad. Sch.										
1-2	\$750 ex	15-20	May 1	Dept. Psychol.										
2	\$750, \$900 ex	0	Feb. 1	Grad. College	8	\$1200 ex	20	Apr. 15	8	\$1200 ex	6 cr. hrs.	May 1	Dept. Psychol.	
					1-2	\$990	15	Aug. 15						
r	\$900 part ex	0	Mar. 1	Dean, Grad. Sch.	5c	\$100 mo.	15-20	Mar. 1	6	\$1500	15-20	Mar. 1	Dept. Psychol.	All-univ. fellows; 26 Grad. Ass't at same stipend. Also 19 counseling as assistantships for women
var	\$270 ex	6	Mar. 1	Dean, Grad. Coll.	var	\$720 \$1000 ex	16	Mar. 1	20	\$720 \$900 ex	16	Mar. 1	Dept. Psychol.	
var	\$270 ex	0	Mar. 1	Dean, Grad. Coll.	4r	\$720-900 ex	16-20	Mar. 1	4r	\$720 ex	20	June 1	Dean, Grad. Coll.	Preschool teaching
5	\$540-720	5-6	Jul 1	Dean, Grad. Sch.					3	\$1000 \$1500	6-9	July 1	Dean, Grad. Sch.	

STIPENDS FOR GRADUATE STUDENTS IN

INSTITUTION	ADMINISTRATIVE OFFICER	ADDRESS	ACADEMIC YEAR 1948-49 BEGINS:	APPLY FOR ADMISSION BY:	TUITION ³	APPLY FOR ADMISSION TO:	SCHOLARSHIPS			
							Number available	Stipend per year	Hrs. work per week	Apply before:
Psychology Dept. Specialized Dept.										
Johns Hopkins	C. T. Morgan	Baltimore, Md.	Sept. 15	Mar. 1	\$400	Dept. Psych.	10	\$400	0	Mar. 1
Kansas	Roger G. Barker	Lawrence, Kan.	Sept. 12	March	\$80 \$180 nr	Dept. Psych.	r	\$300 ex	?	Mar. 1
Kansas St. Teach.	H. W. Schrammel	Emporia, Kan.	Sept. 10	n	\$66 \$120 sem. nr.	Registrar				
Kentucky	F. A. Pattie	Lexington	Sept.	Mar. 25	\$105 \$165 nr	Registrar	15r	\$400	0	Mar. 25
Lehigh	Adelbert Ford	Bethlehem, Pa.	Sept. 1	May 1	\$12.50 per sem. hr.	Dept. Psych.				
Maryland	J. G. Jenkins	College Park, Md.	Sept. 15	Mar. 15	\$50	Graduate Dean				
Massachusetts	Claude C. Neet	Amherst, Mass.	Sept. 15	Sept. 1	\$100 \$220 nr	Graduate Schl.				
Miami (Ohio)	E. F. Patten	Oxford, Ohio	Sept. 13	e	\$90 \$190 nr	Director of Admissions				
Michigan	D. G. Marquis	Ann Arbor, Mich.	Sept. 20	July 1	\$140 \$300	Dean, Schl. Graduate Studies	5	\$300- \$2000	0	Feb. 15
Mills	Mary C. Burch	Oakland, Calif.	Sept. 20	n	\$215	Dean, Graduate School				
Minnesota	R. M. Elliott	Minneapolis, Minn.	Sept. 22	e	\$130 \$200 nr	Dean, Graduate School	var	\$300 ex	0	Feb. 15
Education	W. E. Peik									
Inst. Child Welfare	J. E. Anderson									
Mississippi	John B. Wolfe	University, Miss.	Sept. 15	June 1	\$138 \$338	Dean, Graduate School	2	\$500 part ex	0	April 1
Nebraska	D. W. Dysinger	Lincoln, Neb.	Sept. 9	Mar. 1	\$150 \$300	Dean, Graduate College				
Coll. City New York	Gardner Murphy	New York, N. Y.	Sept. 20	July 1	\$300 c	Grad. Comm. in Psych.				
Sch. Educ.	E. M. Turner		Sept. 8	Sept. 2	\$400 c	Dean, Sch. of Educ.				
New York University	P. D. Stout	New York, N. Y.	Sept. 21	July 15	\$415	Grad. Sch. of Arts & Sciences	1	ex	0	Mar. 1
North Carolina	J. F. Dashiell	Chapel Hill, N. C.	Sept. 22	90 days prior	\$27 per qt. \$96 per qt. nr	Graduate Sch.	2	ex	0	n

PSYCHOLOGY AND RELATED FIELDS—*Continued*

FELLOWSHIPS				SEND APPLICATIONS FOR SCHOLARSHIPS AND FELLOWSHIPS TO:	RESEARCH ASSISTANTSHIPS				TEACHING ASSISTANTSHIPS				SEND APPLICATIONS FOR ASSISTANTSHIPS TO:	REMARKS
Number available	Stipend per year	Hrs. work per week	Apply before		Number available	Stipend per year	Hrs. work per week	Apply before	Number available	Stipend per year	Hrs. work per week	Apply before		
					6	\$990	14	Mar. 1	8	\$990	14	Mar. 1	Dept. Psychol.	
				Dean, Grad. Sch.	2	\$800 \$900	20	6 wks. prior	12	\$800 \$900	20	6 wks. prior	Dept. Psychol.	General university scholarships
2	\$500	5	Mar. 1	Dr. G. R. Hill										
4 r	\$500	0	Mar. 25	Dean, Grad. Sch.	var	\$2400	40	May 1	2	\$750	15	May 1	Dept. Psychol.	All-univer. Schol. & Fell.
2	\$500 ex	20	Mar. 15	Grad. Dean	4	\$110 mo. ex	20	Mar. 15	5	\$110 mo. ex	20	Mar. 15	Dept. Psychol.	
1-2	\$800 ex	22	June 1	Dept. Psychol.					1	\$600 ex	22	June 1	Dept. Psychol.	
									2	\$800	6	Mar. 1		
5	\$500-1000	0	Feb. 15	Dean, Grad. Sch.	10	\$200-1100	5-20	Apr. 1	35	\$200-1100	5-20	Apr. 1	Dept. Psychol.	Assts. in Survey Res. Center also
2	r, ex	12-18	Mar. 1	Sec'y, Comm on Fellowship Awards										Also maintenance
var	\$500 ex	0	Feb. 15	Dean, Grad. Sch.	var	20	\$1200 ex	Mar. 1	16	\$450-685 ex	11	Feb. 15	Dept. Psychol.	
var					var				var				Coll. Educ.	
					1	\$900	20	Mar. 1	3	\$900	16	Mar. 1	Dean, Grad. Sch.	
					1	\$1800 ex	40		5	\$600 ex	11	Mar. 1		
									2	\$1000 part ex	6	June 1	Dept. Psychol.	
					3-4	\$500-700 ex	12	Mar. 1	2-3	\$500-700 ex	12	Mar. 1	Grad. College	
15	\$800	15-20	May 1	Dept. Psychol.					1	\$300	10	May 1		
1	\$950 ex	15	Apr. 1	Dir. Educ. Clinic										
									7	\$800 ex	20	Mar. 15	Psychol. Dept.	Plus some in Sch. of Education
2	\$720 ex	15	Mar. 1	Grad. Office	1 r 6	\$1080 \$960 ex	15	n	2	\$600 ex	12	n		Part-time instructors

STIPENDS FOR GRADUATE STUDENTS IN

INSTITUTION	ADMINISTRATIVE OFFICER	ADDRESS	ACADEMIC YEAR 1948-49 BEGINS:	APPLY FOR ADMISSION BY:	TUITION ^a	APPLY FOR ADMISSION TO:	SCHOLARSHIPS			
							Number available	Stipend per year	Hrs. work per week	Apply before:
Psychology Dept. Specialized Dept.										
Northwestern	R. H. Seashore	Evanston, Ill.	Sept. 20	Feb. 1 e	\$350 r	Dept. Psych.	var	ex	0	Feb. 1
Oberlin	L. D. Hartson	Oberlin, Ohio	Sept. 24	Mar. 15	\$450	Dean, Coll. Arts & Sciences	var	ex	0	Mar. 15
Occidental	G. Brighthouse	Los Angeles 41	Sept. 20	May 1	\$100	Grad. Committee	var	?	?	?
Ohio State	H. E. Burt	Columbus 10	Oct. 5	n	\$105 \$330 nr	Dept. Psychol.	2-3	\$300 - \$400 ex	0	Feb. 15
Ohio University	A. C. Anderson	Athens, Ohio	Sept. 13	1 month prior	\$114 \$264 nr	Director of Admissions				
Human Relations	Irma E. Voigt		Sept. 13	e		Dean I. E. Voigt	6-7	\$650 ex	28	April 15
Municipal Univ. of Omaha	W. H. Thompson	Omaha, Neb.	Sept. 14	July 1	\$8 cr. hr. \$11 cr. hr. nr	Registrar				
Oregon	H. R. Taylor	Eugene, Oregon	Sept. 15	Mar. 1	\$39	Registrar	5-6 r	\$600 - \$780	15	Mar. 15
Pennsylvania	R. A. Brotemarkle	Philadelphia, Pa.	Sept. 20	Sept. 1	\$520	Dean, Graduate School	2 e	\$0 \$200 ex		Mar. 1
Pennsylvania State	B. V. Moore	State Coll., Pa.	Sept. 24	June 1	\$150	College Examiner	6	\$500 ex	10	June 1
Education	W. E. Pratt		Sept. 27	Feb. 1		W. E. Pratt	2	\$500 ex	10	Feb. 1
Pittsburgh	Wayne Dennis	Pittsburgh, Pa.	Sept. 20	July 1	\$10 per sem. hr.	Dean, Graduate School				
Rochester	G. R. Wendt	Rochester, N. Y.	Sept. 15	e, n	\$500	Dean, Graduate School	2	ex	5	Feb. 15
Smith	H. E. Israel	Northampton, Mass.	Sept. 22	n	\$350	Comm. Grad. Study	var	ex	0	Mar. 1
South Carolina	M. K. Walsh	Columbia, S. C.	Sept. 15	n	\$40 \$125					
Southern Methodist	A. Q. Sartain	Dallas, Texas	Sept. 15	July 1	\$300	Dean E. W. Shuler	5	\$300	3	Mar. 15
Stanford	E. R. Hilgard	Stanford Univ. Calif.	Sept. 27	Aug. 15	\$500	Registrar	2 e	\$200 - \$500	0	Feb. 15
Syracuse	R. C. McKee	Syracuse, N. Y.	Sept. 22	Feb. 20	\$500	Dean, Graduate School	1-2	\$500	var	Mar. 1
Educ Psychol	R. G. Kühlen			Aug. 15		Grad. Sch. of Educ.	2	ex	0	Mar. 1
Temple	C. H. Smeltzer	Philadelphia, Pa.	Sept. 20	n	\$351	Dept. Psych.				
Texas	H. C. Blodgett	Austin, Texas	Sept. 16	n	\$25 \$150 nr	Registrar	3e	\$500 e	0	April

PSYCHOLOGY AND RELATED FIELDS—*Continued*

FELLOWSHIPS				SEND APPLICATIONS FOR SCHOLARSHIPS AND FELLOWSHIPS TO:	RESEARCH ASSISTANTSHIPS				TEACHING ASSISTANTSHIPS				SEND APPLICATIONS FOR ASSISTANTSHIPS TO:	REMARKS
Number available	Stipend per year	Hrs. work per week	Apply before		Number available	Stipend per year	Hrs. work per week	Apply before	Number available	Stipend per year	Hrs. work per week	Apply before		
1	\$750 ex	0	Feb. 1	Dept. Psychol.	4-6	\$200-1200	hourly basis	Feb. 1	4	\$1600 ex	var	Feb. 1	Dept. Psychol.	
									1	\$900 r	10	Mar. 1	Dept. Psychol.	Exempt $\frac{1}{2}$ tuition
				Grad. Committee									Grad. Committee	Vary from year to year
1 c	\$600 ex	0	Feb. 15	Grad. Sch.	10-12	\$800 ex	15	Mar. 1	30	\$1200	10 c	Mar. 1	Dept. Psychol.	
1 b	\$700 r	18	Mar. 1	Dean, Grad. Coll.	2 r	\$650	18	Mar. 1						Waive reg. and lab. fees
10	\$200	6	July 1	Dept. Psychol.	2	\$750	22	July 1	1	\$1800	22	July 1		
var	\$900	15	Mar. 15	Dept. Psychol.	var	\$600-780	15	Mar. 15	var	\$10-20	15	Mar. 15	Dept. Psychol.	
1 c	\$300-600 ex	?	Mar. 1	Dean, Grad. Sch.					6-12	\$750-1000 ex	20	Mar. 1	Dept. Psychol.	
									3	\$1000 ex	20	June 1	Dept. Psychol.	
				Dept. Educ.					2	\$1000 ex	20	Feb. 1	Dept. Educ.	
6 c	\$1000	0	Apr. 1	Dept. Psychol.	6	\$1000 ex	20	Apr. 1	18	\$1000-1500 ex	var	Feb. 1	Dept. Psychol.	
1	\$500 ex	0	Feb. 15	Dean, Grad. Sch.	10 c	\$800-1500 r	15-20	Feb. 15	5	\$800-1000 ex	15	Feb. 15	Dean, Grad. Sch.	Some exempt tuition
1 c	ex, r	0	Mar. 1	Comm. on Grad. Study					var	\$700 ex	20	Mar. 1	Dept. Psychol.	Maintenance
2	\$400-700 r	0	Apr.	Dept. Psychol.					2	\$1080 r	9	April		Exempt part of tuition
2	\$500	4	Mar. 15	Dean E. W. Shuler	2	\$350	10	Mar. 15					Dean E. W. Shuler	
4 c	\$500-2400	0	Feb. 15	Registrar	3 c	\$500-1200	var	April 1	7	\$1000-1200	$\frac{1}{2}$ time	Apr. 1	Dept. Psychol.	
1 c	\$1000-1400	0	Mar. 1	Dean, Grad. Sch.	1 c	\$500-1000	var.	Mar. 1	2 c	\$800-1200	9-12	Mar. 1	Dept. Psychol.	
var	1100	0	Mar. 1	Dean, Grad. Sch., Educ.	2	\$500 ex	20	Mar. 1	15	\$1000-1800	20	Mar. 1	Dept. Ed. Psychol.	
					6	\$900 ex	20	e					Dept. Psychol.	
				Dept. Psych.					5	\$1080-1620	30	Aug. 31	Dept. Psychol.	

STIPENDS FOR GRADUATE STUDENTS IN

INSTITUTION							SCHOLARSHIPS			
Psychology Dept. Specialized Dept.	ADMINISTRATIVE OFFICER	ADDRESS	ACADEMIC YEAR 1948-49 BEGINS:	APPLY FOR ADMISSION BY:	TUITION ¹	APPLY FOR ADMISSION TO:	Number available	Stipend per year	Hrs. work per week	Apply before:
Tufts	J. L. Kennedy	Medford, Mass.	Sept. 29	May 1	?	Dean, Graduate School	1	ex	var	May 1
Vanderbilt	S. C. Ericksen	Nashville 4, Tenn.	Sept.	July 1	\$385	Dean, Graduate School	2	\$600	3	Mar. 1
Vassar	Lyle Lanier	Poughkeepsie, N. Y.	Sept. 20	April 1	\$350	Dean of the College				
Virginia	F. A. Geldard	Charlottesville	Sept. 20	Aug. 15	\$142 \$202	Dean, Dept. of Grad. Studies				
Washington (St. Louis)	J. P. Nafe	St. Louis, Mo.	Sept. 25 c	April	\$12.50 per sem. hr.	Dean, Sch. Grad. Studies				
Washington	Stevenson Smith	Seattle, Wash.	Nov. 1	April 1	\$112.50 \$262.50 nr	Dept. Psychol.				
Washington State	F. N. Jones	Pullman, Wash.	Sept. 12	e	\$20 \$150 nr	Dean, Graduate School				
Wellesley	M. J. Zigler	Wellesley, Mass.	Sept. 27	May 1	\$175 per sem.	Comm. on Grad. Instruction	r			
Wesleyan	D. C. McClelland	Middletown, Conn.	Sept. 20	June 1	\$600	Dr. A. Pauli				
Western Reserve	C. S. Hall	Cleveland, Ohio	Sept. 20	Mar. 1	\$14 per cred. hr.	Div. Psychol.	5	ex r	0	Mar. 1
Wyoming	R. H. Bruce	Laramie, Wyo.	Sept. 20	Aug. 20	\$136.50 \$346.50 nr	Registrar	var	ex	0	Mar. 1
Yale	Carl Hovland	New Haven, Conn.	Sept. 15 c	Feb. 15	\$450	Dean, Graduate School	6c	\$450	0	Feb. 15

PSYCHOLOGY AND RELATED FIELDS—*Concluded*

FELLOWSHIPS				SEND APPLICATIONS FOR SCHOLARSHIPS AND FELLOWSHIPS TO:	RESEARCH ASSISTANTSHIPS				TEACHING ASSISTANTSHIPS				SEND APPLICATIONS FOR ASSISTANTSHIPS TO:	REMARKS
Number available	Stipend per year	Hrs. work per week	Apply before:		Number available	Stipend per year	Hrs. work per week	Apply before:	Number available	Stipend per year	Hrs. work per week	Apply before:		
				Dean, Grad. Sch.	2	\$450 ex	var	May 1	1	\$225 ex	var	May 1	Dean, Grad. Sch.	
1	\$750	3	Mar. 1	Dean, Grad. Sch.	1	\$600	var	Mar. 1	1	\$600	var	Mar. 1	Dean, Grad. Sch.	
2	\$900	0	Apr. 1	Dept. Psych.										
var	\$440-700	0	Mar. 1	Dean, Grad. Sch.					4-6	\$300-800	6-12	Jun. 1	Dept. Psych.	
					4	\$1200	6	May 1	6	\$1200	6	May 1	Dept. Psych.	
5	\$900 ex	20	Apr. 1	Dept. Psych.	5	\$700	20	Apr. 1	15	\$1500 ex	10	Apr. 1	Dept. Psych.	
30 r	\$900 ex, r	22	Mar. 15	Dr. E. S. Bordin					2	\$900 ex	22	Mar. 15	Dept. Psych.	Counseling fellowships; room provided
									3	\$800 ex	26	n	Dept. Psych.	General university scholarships of varying amounts.
					1 c	\$500	10-12	May 1	3 c	\$800-1200	15-24	May 1	Dept. Psych.	May exempt $\frac{1}{2}$ tuition.
				Dean, Grad. Sch.	10	\$700 ex	15	Mar. 1	2	\$1200 ex	15	Mar. 1	Dean, Grad. Sch.	
				Dean, Grad. Sch.	2	\$600 ex	15	Mar. 1					Dean, Grad. Sch.	
8 c	\$850 c	0	Feb. 15	Dean, Grad. Sch.	12 c	\$600-1200 part ex	10-21	Feb. 15					Dept. Psych.	

A COURSE IN THE LIFE SCIENCES¹

CLARENCE LEUBA AND HENRY FEDERIGHI

Antioch College

MANY sciences — notably biology, psychology, anthropology, and sociology—contribute to a knowledge of man. The trend today in both teaching and research is toward overcoming the disadvantages of this departmentalization of knowledge, while still retaining the advantages of specialization. The result has been research teams and survey, area, or general courses taught cooperatively by experts. All the material pertinent to an understanding of man is brought together, irrespective of its academic origins.

The easiest and most obvious way of organizing such a course in the Life Science area is to consider first the contributions which one science, say biology, can make toward an understanding of living things, especially man, then the contributions of another science, and so on. The first survey courses were mostly of that nature. They turned out to be somewhat superficial introductions to, or surveys of, each one of the participating sciences rather than well integrated, thorough, and comprehensive studies of the more significant aspects of human, plant, or animal nature.

Some courses met these drawbacks by organizing their content around certain important topics: nutrition, emotion, sex, use of symbols, social conflicts, delinquency and so on, and having experts discuss the contributions which they could make to each one of these topics. There was no longer an anthropological, biological, psychological, or sociological part of the course. But specialists often lack perspective, use different terminologies, and sometimes confuse major issues by disagreements on really minor matters. Courses taught by a series of specialists are likely to lack both overall unity and a coherent, consistent, and comprehensive treatment of each topic.

Many educators feel that it is only as one man

assumes the ultimate responsibility for organizing and teaching a course that it can achieve reasonable unity and coherence. But most college teachers today have been trained in but one of the specialties studying man; even within his field of specialization an instructor is likely to be prejudiced in favor of certain terminology, approaches, and theories. The student is only too likely to study human nature as presented by the instructor rather than human nature in general.

The two-year course in the Life Sciences at Antioch College was developed while bearing in mind the advantages and drawbacks of the various methods of organization we have just described. It is an outgrowth of separate required courses in anthropology, biology, health, and psychology in Antioch's liberal education program and of an elective course in sociology. The same topics of heredity, biological needs, personality adjustments, learning, emotions, hormones, nervous system, health, conflicts, delinquency, and so on, were considered in a partial fashion in several of these courses. There was overlapping, repetition, and unnecessary and confusing differences in terminology. Rarely was a significant human problem taken up in a thorough and well balanced fashion from all standpoints.

In 1945 the authors, a psychologist, and a biologist, were entrusted with the overall planning, and with most of the actual instruction, in a unified two-year Life Science course. We learned to work in close collaboration and to secure ideas, information, bibliographies, and services, such as occasional lectures, from experts in anthropology, sociology, education, health and medicine. Whenever experts are called upon for lectures or bibliographies, their material is examined carefully with reference to its supplementing other information already available to the student, and to the use of an understandable and consistent terminology.

Every effort is made to focus all pertinent information on a topic, no matter what may be the departmental origins of that information and to indicate the interrelatedness of topics in the organism as a whole.

¹ This article is drawn in part from a paper delivered at the 1947 meeting of the Midwestern Psychological Association and in part from an article, "The Proper Study of Mankind is Man", to appear in a forthcoming issue of the *Journal of General Education*.

To protect the student against the idiosyncrasies and prejudices of the particular biologist and the psychologist in charge, the course is subjected to inspection and review by a committee representing all the Life Sciences. Examinations are partially under the jurisdiction of that committee. Though two men are entrusted with the development of a comprehensive and well integrated course, their work is scrutinized by experts in the Life Sciences and has to meet with their approval.

OBJECTIVES AND CONTENT

In addition to the usual objectives of furnishing students with the significant factual material and with the theories of biology, psychology, and of the other Life Sciences, and of promoting an appreciation of the value of the scientific method in these areas, the Antioch course has also the following objectives. Some of these overlap, or clash in part, and compromises have had to be found.

1. To organize present day knowledge of man—no matter what its academic origins—around a few, actually four, significant topics. These divide the course into four self-contained units. The first of these deals with world-wide *similarities* in human nature, whether determined by biological or cultural universals; the second unit, with the characteristics of living things in general; the third unit deals with the origin and development of *differences* among living things, and among men in particular, and with man's dependence on other forms of life; and the fourth unit, with the application of the Life Sciences to both personal and social problems. In general, the first year of the course (the first two units) emphasizes basic principles and the universals in human, plant, and animal nature; the second year (the last two units) emphasizes individual differences and applications.

The title of this article—a course in the Life Sciences—is perhaps misleading. The emphasis is not on an understanding of the various Life Sciences as such, but on an understanding of man and of other forms of life important to his welfare.

2. To give students information helpful in making adjustments at the times when deans and counselors deem it most advisable. Although the first year is devoted primarily to basic principles and to the universal characteristics of life in general, and of man in particular, material is introduced at that time to help freshmen adjust satisfactorily in the situations they are encountering. Thus there are

sub-units in the first year on sex education (in connection with biological needs), on the uses and misuses of alcohol (in connection with a study of the nervous system), on study habits (in connection with the principles of learning), and on the use of health and recreational facilities (in connection with bodily defenses against disease and the needs for activity and rest).

3. To integrate the facts and general principles provided by text books and lectures with daily living; to familiarize the student with methods of dealing with human relations problems; and to develop appropriate attitudes and habits as well as to convey information. Emphasis is placed on attitudes and methods and on illustrations of general principles in every day life situations. In the sex education unit there are informal sessions with young married people as well as the customary lectures, reading, and section meetings. Students are encouraged to make a reasonably accurate and comprehensive self-appraisal and to use the services offered by the various Life Science departments; as for instance, the counseling, reading habits, study, and speech improvement services offered by the education and psychology departments, the nature trips sponsored by the biology department and the recreational, body building, and health habit (diet and sleep charts, etc.) services offered by the physical education department.

4. To enable the student to master the available material in any way that suits him best and to skip any of the four main sections of this course in which diagnostic examinations show him to be proficient. Detailed syllabi are provided for each of these four sections. Every student is required before graduation to show on an achievement examination that he has at least the information provided by this two year course. How he gets that information is his own affair. He may use the lectures, library, and various services offered by the Life Sciences departments to the extent that he finds them useful. Most students are advised, however, to take advantage of the incentive offered by regular course meetings and frequent quizzes, and do so.

The course is offered twice each academic year. About 150 students take the first two units, and about 100 take the last two units, each time the course is offered.

These four objectives might be summarized in the statement that the two-year sequence in the Life Sciences represents an attempt to integrate per-

tinient information from all those sciences around significant human topics and to use various techniques and services to make that information functional in the life of the student.

CONDUCT OF THE COURSE

The two authors, working in close collaboration and with the aid of experts in other fields, prepare the syllabi and discuss lecture materials and teaching techniques at almost weekly intervals. There are two or three lectures weekly to the whole class, and occasional films and field trips. Although most of the lectures are given by the authors, there are occasional lectures by experts in such areas as sociology, plant physiology, and physical education. In all such cases the lecture material is carefully examined with reference to terminology and to supplementing information already available to the student.

Depending upon the nature of the subject matter taken up in the reading and the lectures, the student has either one laboratory or one discussion meeting weekly. For these purposes the class is broken up into groups of 20 to 25. Over the two-year period the student will participate in almost twice as many discussion meetings as laboratories. The discussion sections are led by several members of the faculty; the latter meet regularly to discuss their experiences and to report student reaction to the lectures, readings, and other aspects of the course.

Students are referred not only to alternative readings in several standard texts in each of the Life Science areas—anthropology, biology, psychology, and sociology—but also to appropriate sections of other important books. Several copies of each of these books and of the texts are held on a reserve shelf in the library. The student's knowledge is tested by objective-type questions at regular intervals and by devices, such as reports, for indicating his comprehensive and integrated grasp of a subject, and by laboratory work and experiments for testing his ability to apply the scientific method for gaining new information.

SOME DIFFICULTIES

Students were asked recently to make anonymous comments, favorable or otherwise, regarding their first year in the Life Science course. Though there was general approval of the course content, especially of the lectures, the reading material, and the laboratory experiments, there was much criticism

of the section meetings and of the objective type examinations. Most students wanted discussion groups but they were critical of the section leaders. It was evident that we had not succeeded in selecting or training satisfactory discussion leaders.

The student criticisms of the discussion groups indicates that it takes superior teachers with a wide yet detailed knowledge of man to lead such groups satisfactorily. Teachers of that sort are not easy to find. Experts conversant with man as a whole are not being produced by graduate schools today. Young teachers are too narrowly trained; older and more experienced teachers have developed specialized courses and interests to which they want to devote their energies.

There are also other difficulties. (1) The experts who are invited to give occasional lectures do not always unify or integrate their material sufficiently with the other parts of the course. Here we have a problem which in many cases cannot be answered except by dropping the expert. (2) Since as indicated in objective four, the student may skip one or more of the four main sections of the two year course, the parts he enrolls in may tie up many hours in his schedule during some of which he may not actually be enrolled in the course. (3) It is most difficult to prepare appropriate diagnostic, as well as achievement, examinations for the students who are talking the course or who are deciding whether or not they need to take it. (4) This course now takes the place of an elementary or introductory course for each of the Life Science areas. Most of the instructors in advanced courses have felt that the new two-year sequence gave their students sufficient background. One instructor, however, has complained that students were inadequately prepared for his course in genetics. (5) Suitable reading material is meager and scattered. The terminology of the sciences pertinent to the course is that of the expert; it is often unnecessarily complicated and forbidding for the beginning student. It is difficult to find sufficiently comprehensive and reliable reading material for certain topics such as patient-physician relationships, sleep and relaxation, and boy-girl relations. The authors are now attempting to integrate in a two-volume text the contributions of anthropology, biology, psychology, and sociology to an understanding of man and of his relation to other forms of life. Once more adequate reading material is available, there

should probably be fewer lectures and more discussion meetings.

CONCLUSIONS

The course, even though only in its second year, has made certain things clear. (1) There is great student demand for a well-organized, well-integrated, comprehensive and scientific course in the Life Sciences with particular emphasis on man. (2) A more fully satisfactory course will come only as experts extend their studies to cover man as a whole. For the moment all that can be done is to integrate pertinent and reliable materials from all the sciences dealing with living things and to make this information functional in the life of the student. (3) The course must deal both with general principles and concepts and with their applications. Only in so far as it is basic and fundamental and that it also renders some direct and immediate services in the field of personal and social relations will it succeed. Though the student has some interest in understanding life in general, he is primarily interested in his own life and the lives of his companions; the course must therefore be related to these subjects.

OUTLINE OF A TWO-YEAR COURSE IN THE LIFE SCIENCES

Combining Contributions from Anthropology,
Biology, Psychology, and Sociology.²

First Year

(Designed especially for freshmen)

First Unit—8 weeks

A. The Nature of Man

1. Biological and cultural universals—sources of information—orientation in Anthropology.
2. Physiological basis of behavior—sense organs, muscles, nervous system, and their integrated functioning.
3. Effects of alcohol on the nervous system—uses and misuses of alcoholic beverages.
4. Biological needs and their satisfaction—Part I—
 - a. Characteristics of all biological needs.
 - b. Hunger and thirst.
 - c. Sexual needs—reproduction, boy-girl relations in modern society—marriage.

² Detailed syllabi may be obtained from the Antioch College Bookstore (two dollars), Yellow Springs, Ohio.

5. Maturation—the principles of learning—study skills, reading speed.
6. Symbols — language — thinking — speech improvement.
7. Reactions to obstacles and emergencies.
 - a. Emotion.
 - b. Positive reactions.
 - c. Defense and escape mechanisms.
8. Universally acquired needs—(desires for attention, approval, etc.)—alleged instincts.
9. Alleged human powers—telepathy, etc.

Second Unit—12 weeks

A. The Nature of Man (con't.)

10. Biological needs and their satisfaction—Part II
 - a. Food, water, oxygen, elimination.
 - b. Temperature maintenance—clothing and housing.
 - c. Activity—exercise—learning physical skills—a recreation program.
 - d. Rest—sleep (techniques of relaxation).
11. Body and other defenses against disease and injury—medical facilities—accident prevention—medical quacks—the organization of medical facilities in a community.

B. The Nature of Life

1. Living and non-living things.
2. Protoplasm.
3. Cells.
4. Diffusion—osmosis.
5. Photosynthesis.
6. Growth.
7. Respiration.
8. Motion.
9. Irritability—sense organs.
10. Reproduction.

Second Year

(Designed especially for sophmores)

Third Unit—8 weeks

A. Differences Among Living Things

1. Evolution—classification of living things—origin of species.
2. Heredity.
3. Constitutional human differences—age, racial, and sex differences.
4. Man's dependence on other forms of life.

B. Orientation in Biology

Fourth Unit—12 weeks

- A. Orientation in Psychology
- B. Personality: its development and measurement—environmental influences in the development of traits.
- C. Adjustments
 - 1. Personal effectiveness
 - a. The trained mind: observation, memory, thinking, inventiveness.
 - b. Motivation, "will power," work methods, self-confidence, inferiority feelings, defense and escape mechanisms, emotional control, conflicts, making and breaking habits, conscience.
 - c. Drugs—uses and misuses.
 - d. Study and reading habits.
 - e. Job and vocational adjustment.
 - f. Driving safely.
 - 2. Social effectiveness—making friends, influencing people, leadership, morale, group spirit, traditions, standards, job adjustments, getting along with the opposite sex, marriage.
- D. Orientation in Sociology
- E. Contributions of the Life Sciences to the solution of some social problems: feeble mindedness, delinquency, crime, insanity, etc.

SERVICES AVAILABLE TO STUDENTS IN THE
LIFE SCIENCE COURSE

Biology Department:

- 1. Laboratory facilities in biology for both standard and special experiments.

- 2. Glen Helen as a laboratory for nature study.

Psychology and Education Departments:

- 1. Personality appraisal. Testing of aptitudes, interests, etc.
- 2. Study habits evaluation and improvement.
- 3. Psychological Counseling Service.
- 4. Laboratory facilities in psychology for both standard and special experiments.

Personnel Department:

- 1. Vocational Guidance.

Health and Physical Education Department:

- 1. Appraisals of, and improvement measures for:
 - General health.
 - Diet.
 - Posture.
 - Weight.
 - Sleep habits.
 - Recreational background and habits.
 - Motor educability.
 - Exercise tolerance and susceptibility to accident.
- 2. Body Conditioning for men and Body Mechanics for women are activity courses offered each period to acquaint students with various methods of exercise and the planning of exercise routines. Exercises which promote relaxation, strength, coordination, and basic motor skills are presented, practiced, and analyzed.

Across the Secretary's Desk

FELLOWSHIPS AND SCHOLARSHIPS

On pages 20 to 29 we are publishing a comprehensive table listing information about fellowships, scholarships, and assistantships available to graduate students in psychology in a number of universities and colleges. This table will take the place of individual announcements which have in the past appeared in the Notes and News section.

The table is based on returns from a questionnaire which was mailed in November to all schools known or thought to be offering graduate work in psychology. Late replies will be summarized next month. At present, institutions to be added to the list are:

University of Buffalo
University of California (Berkeley)
Clark University
Colgate University
University of Delaware
George Washington University
University of Maine
Michigan State College
University of Missouri
Montana State University
University of Oklahoma
University of New Mexico
Teachers College, Columbia (Departments of
Guidance and Psychological Foundations)
Tulane University
University of Southern California
University of Vermont

Graduate students should take the initiative in applying to the institutions of their choice.

NEW APPLICANTS FOR ELECTION TO THE APA

Since last March approximately 500 applications for election as Associates of the APA have been received. These applications will be considered by the Board of Directors in March, 1948. Electing Associates is a responsibility of the Board of Directors; no other means can be used.

Before next March, any applicant whose file is technically incomplete (for example, having only one endorser or being endorsed by someone who is not a member of the APA) will be informed of what he needs to make his application complete. If an application is complete, the applicant will not be informed.

Associates must be elected by the APA before they can request membership in a division. Information concerning the Board of Director's action on each application, and information on the divisions, will be sent to each applicant in April, 1948.

PUBLICITY FOR PSYCHOLOGY

My mail frequently contains letters suggesting that I ought to employ a public relations expert to improve the prestige of the APA among lay groups and to educate them concerning the nature and work of a psychologist. Too many letters saying "you ought to" produce a reaction of saying "you ought to yourself." This article is written in that spirit. It outlines some of the things a publicity expert could do for the APA, but it also points out some things the individual members could do to give psychology better publicity.

1. A publicity expert would prepare news stories presenting psychology and the activities of psychologists in a favorable light. He would attempt to place these stories in as many newspapers as possible. The APA already does this in a small way. Advance copies of all our journals are given to *Science Service*. Abstracts of articles which appear to have news value are put out on *Science Service's* leased wire to newspapers of the country.

Much more of this kind of publicity could be secured by the individual members of the APA. When you present a paper at a scientific meeting, let your local newspaper know about it. If you or one of your colleagues is elected to office in one of the psychological associations, tell your newspaper. News items of this nature are perfectly legitimate publicity for you, for the APA, and for psychology generally. The APA's Committee on Public Relations in 1946 and the APA office have sent many such items to newspapers. A publicity expert could send out more. Individual psychologists scattered all over the country can do much more.

2. A publicity expert would write or help write magazine stories about the work of psychologists. During the past two years the APA office has worked or found a psychologist to work with staff writers of several magazines of national circulation helping them to prepare accounts of psychological work. Resulting articles have been or presumably will be

published in *Look*, *Tide*, *Kiplinger's Magazine*, *Readers Digest*, and the *Saturday Evening Post*.

3. A publicity expert would cooperate with newspaper reporters and magazine writers in order to secure their good will and in order to secure more publicity for the Association. Within the limitations of the time and facilities available, the APA does this. So do most members when they have an opportunity. But members sometimes refuse to help a news reporter. Here is a situation in which discrimination is necessary. For the past two years the Associated Press has sent a competent science writer to cover the annual APA meetings. At Philadelphia he wrote some excellent accounts that were carried in a large number of papers. At Detroit he made a very careful effort to learn in advance which papers contained good stories, and then tried to get as much detail as possible about each so that he could write accurate and interesting reports. Yet the authors of two or three of the papers which he wished to report refused to let him see their manuscripts. They had seen some badly distorted newspaper accounts of psychological work, and so refused to cooperate with a reporter who was attempting to present their work fairly and accurately. If a psychologist is not willing to differentiate between a reporter who is attempting to present his material fairly and one who is looking for the most sensational story, what right has he to complain if the newspapers and the lay public do not differentiate between a competent and ethical psychologist and a quack who calls himself a psychologist.

Another aspect of this problem of cooperation with the press is the style in which we write our technical reports. A publicity expert would rewrite most psychological reports in order to make them intelligible to the ordinary newspaper or magazine reader. Better writing in the first place would make it easier for the press and the public to understand what psychologists are attempting to do. Better writing is a responsibility of all of us.

4. A publicity expert would initiate a general education program telling the public of the services which psychology is prepared to render. It is a

familiar dictum that a satisfied customer is the best possible advertisement. The work we do as psychologists determines, in the long run, our public acceptance and prestige. But we must let the public know where they can come for sound psychological service. The APA office frequently receives requests from individuals and industries asking where certain types of psychological service can be secured. As best we can, lacking a directory of such services, we try to make appropriate referrals. The members of the APA, particularly the college professors, could contribute a great deal of good advertising for the psychological resources of the communities in which they live. A little lecture time could well be spent in some classes in describing the community's psychological resources and in giving the name and type of service each agency is equipped to render. Information on how to distinguish a reputable psychologist from a charlatan could profitably be included. *All of us have troubles*, a booklet written by Harold Seashore and published by the YMCA, will provide ideas for preparing such a lecture. Lecture time spent in this fashion would present desirable publicity to all the class members, and through them to a larger circle of friends and relatives. It would take a publicity expert a long time to accomplish as much in this direction as psychology instructors could achieve in the course of their normal duties; even then, it would be "publicity" rather than "psychology."

The whole question of publicity for psychology will be reviewed by the Policy and Planning Board next spring. They may or may not decide that we should employ a public relations expert. He would not do anything that department heads and APA committees have not done on occasion. He would work longer hours at the job, but with less prestige for the result. No matter how able and energetic he might be, he could not work alone. For the public's attitude toward psychologists is primarily determined by their experience with psychologists, by the kind of service rendered by psychologists, and by the publicity which individual psychologists receive in their own communities. DAEL WOLEFE

[illegible]

Dr. McFarland was also made an Honorary Fellow of the Association.

Don Lewis of the State University of Iowa has received from General Carl Spaatz a War Department commendation for meritorious civilian service. The citation reads in part as follows: "In recognition of his outstanding services as Chief, Training Research Group, Office, Assistant Chief of Air Staff-3, . . . His recommendations for formulating psychologically sound training standards, training doctrines, and educational policies have provided an invaluable guide."

Eldred F. Hardtke has accepted the position of resident psychiatrist at the John Sealy Hospital of the University of Texas, Medical Branch, Galveston, Texas.

John E. Crawford, formerly of the University of Pittsburgh, was appointed last July to the administrative staff of Wagner (Memorial Lutheran) College, New York, as director of guidance and professor of psychology.

Margaret S. Quayle has accepted an appointment effective in January, 1948 as associate professor at the University of Alabama. She was formerly at State Teachers College, Buffalo, New York.

Elliott McGinnies accepted in September, 1947 an appointment as acting assistant professor at the University of Alabama.

William H. Mikesell has been appointed professor of education and psychology at Washburn Municipal University, Topeka, Kansas. Dr. Mikesell was formerly chairman of the psychology department, University of Wichita.

The Johns Hopkins University has announced the following promotions and additions to the staff of the department of psychology: **Clifford T. Morgan**, professor and chairman; **G. Wilson Shaffer**, professor and dean of the faculty; **Wendell R. Garner** and **Alphonse Chapanis**, assistant professors; and **Eliot Stellar**, formerly NRC pre-doctoral fellow at Brown University, instructor.

Recent appointments as clinical psychologists in Branch 5 of the Veterans Administration include: **W. S. Phillips**, Branch Chief Clinical Psychologist, Atlanta (formerly of the University of Georgia's

testing and guidance services); **Helen Glenn**, Atlanta Mental Hygiene Clinic; **Lawrence Johnson**, Tampa Mental Hygiene Clinic; **Carol Cotton Bowie**, Tuskegee Hospital; and **Randolph Boring**, Tuscaloosa Hospital.

Michigan State College has added ten staff members to the department of psychology for the current academic year: **S. Howard Bartley**, formerly professor of research in the visual sciences, Dartmouth Eye Institute, joined the staff on July 1 at the rank of professor. Seven joined the staff on September 1: **Elizabeth Fehrer**, associate professor, formerly of George Washington University; **Frederic R. Wickert**, associate professor of industrial psychology, formerly of the Commonwealth Edison Co., Chicago; **Kenneth S. Davenport**, assistant professor, from the University of Florida; **Glen Grimsley**, assistant professor of industrial psychology, from the University of Arizona; **Kathern M. McKinnon**, assistant professor of clinical psychology, formerly clinical psychologist and director of counseling services, Newton Public Schools, Massachusetts; **Milton Rokeach**, assistant professor, from the University of California, Berkeley; and **George R. Thornton**, assistant professor, formerly lecturer at the University of Michigan.

John F. MacNaughton of Northwestern University has accepted an appointment effective January 1, 1948 as assistant professor of industrial psychology. **Boyd R. McCandless** of San Francisco State College will join the staff on February 1, 1948 as assistant professor of clinical psychology.

T. G. Andrews has been granted leave of absence from the University of Chicago to serve as scientific advisor for the Research Group of the Research and Development Division of the U. S. Army General Staff in Washington, D. C.

Raymond Corsini is now a senior clinical psychologist at the California State Prison, San Quentin. He was formerly a psychologist at the Elmira Reception Center.

Aaron H. Center has been appointed as clinical psychologist at the Brooklyn VA Mental Hygiene Clinic. He is also assisting in the Guidance Department at Teachers College, Columbia.

The department of psychology of the University of Chicago presented a symposium on social psychology

on November 14 and 15, 1947. **Donald G. Marquis**, president of the American Psychological Association, spoke on "The prospect for the social sciences," served as chairman of a program on the topic "Social psychology as a defense against the atomic bomb," and summarized the issues brought out in each program. **Ronald Lippitt**, **Leon Festinger**, **Dorwin Cartwright**, and **John R. P. French, Jr.** of the Research Center for Group Dynamics were speakers on the program. Other speakers were **R. Wendell Harrison**, vice-president, University of Chicago; **Ernest C. Colwell**, president, University of Chicago; **Ralph W. Tyler**, acting dean of the Division of Social Sciences, University of Chicago; **Daniel Katz**, Survey Research Center, University of Michigan; **Donald V. McGranahan**, Department of Social Relations, Harvard; and **James J. Gibson**, Smith College. These lectures will be published later.

The Illinois Association for Applied Psychology held an open meeting on November 18 on the subject "The Rorschach: its values and limitations." **Henry Brosin**, chairman of the department of psychiatry of the University of Chicago, **L. L. Thurstone**, professor of psychology at the University of Chicago, **Gordon R. Kamman**, psychiatrist of St. Paul, and **Warren S. McCulloch**, professor of psychiatry at the Illinois Neuropsychiatric Institute were the speakers. **Samuel J. Beck** of Michael Reese Hospital served as chairman.

The Program Committee of the Eastern Psychological Association invites psychologists throughout the United States and Canada to submit films for showing at its annual meeting at Temple University, Philadelphia, April 16-17, 1948. Psychologists outside of the EPA area are invited to correspond with Dr. James Page at Temple University regarding their films, giving a brief description of the content. The deadline for committee action is February 10, 1948.

Committee on Human Resources. The Research and Development Board of the National Military Establishment has appointed a committee on Human Resources under the chairmanship of **Donald G. Marquis**. Other members of the committee are **William C. Menninger**, **Carroll L. Shartle**, **Samuel A. Stouffer** and two members each designated by the Departments of the Air Force, the Army and the Navy.

The mission of the committee is to merge into a joint effort programs relating to the supply and utilization of scientific, technical, and specialized

personnel, and to coordinate research on broad problems of human resources. The committee will evaluate the human resources of the nation as they relate to the fields of research and development as a part of the National Defense program. Some of the subjects covered by the committee's activities are: sensory and psychomotor functions, human factors in the design of equipment, environmental conditions influencing efficiency, systems research, personality, test theory, learning, and training; selection, classification, and management of personnel; enumerative techniques, sampling methods, population and migration studies, occupational mobility and occupational trends, human relations and social organization, including group structure and dynamics, leadership, morale, public opinion and propaganda, mass behavior, and cultures.

The secretariat of the committee includes the following persons, all of whom are devoting full time to committee activities: **Lyle H. Lanier**, (on leave from Vassar) executive director, **Raymond V. Bowers**, deputy executive director, **Dwight W. Chapman**, panel director, Lt. Comdr. **D. J. Carrison**, Navy Secretary, and Col. **G. R. Evans**, Army secretary. An Air Force secretary is to be appointed.

Most of the activities of the committee will be carried on through four panels. Each panel consists of a representative from each of the three military departments and three or more civilian members. Chairman of the four panels and the civilian members already appointed are:

Panel on Manpower: **Philip M. Hauser**, chairman.

Panel on Morale: **Charles Dollard**, chairman, **Carl I. Hovland**, and **Alexander Leighton**.

Panel on Personnel and Training: **John G. Darley**, chairman.

Panel on Psychophysiology: **Arthur W. Melton**, chairman, **Charles W. Bray**, and **Frank A. Geldard**.

Daniel I. Malamud, formerly psychologist at the United States Disciplinary Barracks at Fort Knox, has been appointed research director of the Central Harlem Street Clubs Project sponsored by the Welfare Council of New York City. Dr. Malamud has stated that three Area Worker positions are open. Area workers will attempt to contact street gangs and win their confidence. Requirements for the positions include: liking for young people, a Master's degree in psychology or social work, and relevant experience. Interested applicants should write to Mr. George Harrison, 107 West 116th St., New York 26, New York.

Convention Calendar

AMERICAN PSYCHOLOGICAL ASSOCIATION

September 7-11, 1948; Boston, Massachusetts

For information write to:

Dr. Dael Wolfe, American Psychological Association
1515 Massachusetts Avenue, Washington 5, D. C.

SOUTHERN SOCIETY FOR PHILOSOPHY AND PSYCHOLOGY

March 25-27, 1948; Atlanta, Georgia

For information write to:

Dr. Joseph Weitz, Newcomb College, Tulane University
New Orleans, Louisiana

MIDWESTERN PSYCHOLOGICAL ASSOCIATION

May 7-8, 1948; St. Paul, Minnesota

For information write to:

Dr. Claude E. Buxton, Department of Psychology
Northwestern University, Evanston, Illinois

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

September 13-17, 1948; Washington, D. C.

For information write to:

Dr. John M. Hutzler, A.A.A.S.
1515 Massachusetts Avenue N.W.
Washington 5, D. C.

EASTERN PSYCHOLOGICAL ASSOCIATION

April 16-17, 1948; Temple University, Philadelphia

For information write to:

Dr. Harold G. Seashore, Psychological Corporation
522 Fifth Avenue, New York 18, New York

ROCKY MOUNTAIN BRANCH OF THE AMERICAN PSYCHOLOGICAL ASSOCIATION

May 7-8, 1948; Colorado State Teachers College,
Greeley, Colorado

For information write to:

Dr. Lillian G. Portenier, University of Wyoming
Laramie, Wyoming

NATIONAL VOCATIONAL GUIDANCE ASSOCIATION

March 29-April 1, 1948; Hotel Stevens, Chicago

For information write to:

Miss Christine Melcher, Exec. Sec'y, N.V.G.A.
82 Beaver Street, New York 5, New York

CANADIAN PSYCHOLOGICAL ASSOCIATION

May 27-29, 1948; Winnipeg, Manitoba

For information write to:

Dr. C. R. Myers
100 St. George Street
Toronto, Ontario

ILLINOIS ASSOCIATION FOR APPLIED PSYCHOLOGY

January 12, 1948; Chicago, Illinois

For information write to:

Dr. Milton A. Saffir, Secretary
Illinois Association for Applied Psychology
55 E. Washington Street
Chicago 2, Illinois

AMERICAN ORTHOPSYCHIATRIC ASSOCIATION

April 12-14, 1948; Hotel Commodore, New York

For information write to:

Dr. Nina Ridenour
1790 Broadway, New York 19, New York

AMERICAN ASSOCIATION ON MENTAL DEFICIENCY

May 18-22, 1948; Copley Plaza Hotel, Boston

For information write to:

Dr. Lloyd N. Yepsen, State Office Building
Trenton, New Jersey

WESTERN PSYCHOLOGICAL ASSOCIATION

June 17-18, 1948; San Francisco State College, San
Francisco

For information write to:

Dr. Lester F. Beck, Department of Psychology
University of Oregon, Eugene, Oregon

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Psychology of Adolescence by LUELLA COLE

A revision of Luella Cole's outstanding book on the psychology of the adolescent is now in preparation and will be published this Spring. It will include critical evaluations of recent case studies and the latest theory and practice in this field.

Now in use in the psychology departments of more than two hundred colleges and universities, the present edition has been reviewed by the *Minnesota Journal of Education* as "an exceptionally well written and scientific text on the adolescent, dealing with physical, emotional, social, moral, and intellectual development. Rich in case studies."

New edition, probably 600 pages, probably \$3.50.

Available in May

Rinehart & Company, Inc. • New York

THE FIELD OF ACTION RESEARCH¹

ISIDOR CHEIN, STUART W. COOK, AND JOHN HARDING

Commission on Community Interrelations of the American Jewish Congress

THE SCIENTIFIC SETTING OF ACTION RESEARCH

THE scientific way of life is governed by three broad classes of interacting motives: *curiosity*, the desire to know what is going on when one's back is turned, where one's vision cannot easily reach, or where a situation is too complex for clear viewing; *practicality*, the desire that the results of one's labors, search, and enquiry should be useful and significant, that they should "make a difference;" and *intrinsic orderliness*, the desire that the masses of accumulated data be reduced to a comprehensible order and that the complexities which have been unraveled in the satisfaction of one's curiosity be not again obscured by the imposition upon the data of an arbitrary order.

There are many consequences of the recognition of the motivation of the scientist. One can, for example, readily derive therefrom an appreciation of the importance which the scientist attaches to the principle of parsimony and one can discern in these terms many important implications for the requisites of a philosophy of science.

When seen in the light of these interacting motives, the great controversies which have raged over *pure vs. applied* science obscure the real problem. Reduced to the level of the functioning scientist, the basic question is not one of pure vs. applied science, but rather of the degree to which the scientist's diverse needs are satisfied. The so-called "pure scientist" is not unconcerned with the significance of his results, nor is the "applied scientist" unconcerned with the broader systematic aspects of his work. It is true, of course, that scientific techniques may be adapted to non-scientific practical purposes, but if the sole concern is with the practical purposes and not at all with exploring the unknown or contributing to the systematization of knowledge, then the adapter may be a high grade technologist, but he is not a scientist, "pure" or "applied." A physician, for example, does not become a scientist merely by doing urine analysis.

The question of practicality draws attention, however, to an important aspect of the contemporary scientific world. One can arrive at a recognition of two broad approaches to scientific inquiry. The first may be characterized as *descriptive*. The scientist, when he follows this approach, is concerned with describing the world as it is and with discovering correlated terms. He is little concerned with the causes or determining conditions of events, indeed he may even be skeptical about the existence of "causes." His labors are not without practical significance. It is after all in the world as it is that we must act, and full familiarity with the arena of action helps us to act less blindly. It is true that the occasions for making use of the knowledge acquired by purely descriptive research are not always immediately apparent; and, in a changing world, some of the accumulated knowledge may have lost its pertinence by the time the occasion for action arises. The main point is that this approach is not by itself sufficient for the scientist whose chief concerns are geared towards action, towards doing something, towards *changing* the world as it is while at the same time contributing to the acquisition and ordering of human knowledge.

The second broad approach may be characterized as the *conditional*. The scientist, when he adheres to this approach, is primarily concerned with the determining conditions of events. He is not equally satisfied with the discovery of all varieties of correlations. He wants to discover a special kind of correlation, the causal or, more properly, the conditional variety. Toward this end, he must usually do something more than merely to describe. Conditional relationships may sometimes be inferred from purely descriptive data, but the method of choice in the conditional approach is the actual manipulation of circumstances and the observation of the resultant changes.

Such an approach to scientific endeavor, one which is aimed at the discovery of the determining conditions of events, is obviously ideal for the scientist whose life as a scientist is integrated with his life as a citizen, who wishes to pursue a scientific way of

¹ Adapted from an address given at the Twenty-fifth Annual Institute of the Society for Social Research on the University of Chicago campus on August 10, 1946.

life and at the same time to devote his energies toward civic betterment.

It is with these considerations in mind that one can, perhaps, best understand the field of action research.² It is a field which developed to satisfy the needs of the socio-political individual who recognizes that, in science, he can find the most reliable guide to effective action, and the needs of the scientist who wants his labors to be of maximal social utility as well as of theoretical significance.

SPECIAL DIFFICULTIES IN ACTION RESEARCH

Offhand it may seem that the problems of action research are quite simple: science merely turns its weapons in a new direction. Actually the case is quite different. Not only does the action researcher face all of the difficulties which confront the scientist in his laboratory, but an entirely new set of difficulties, extraneous to fact-finding per se, enter the picture.

Consider the case of the physical sciences. Ordinarily the scientist's job comes to an end, as far as society is concerned, when he has made some technological advance or some socially applicable scientific discovery. It is up to society to make use of this development. If it fails to do so, the scientist may perhaps react with a sense of personal futility, but he still considers that *his* job has been done; he does not ordinarily suppose that it is part of his job to see to it that the results of his labors are applied.

Suppose, however, that the scientist redefines his job to include not merely teasing out the secrets of nature but also directing the application of his discoveries. He would suddenly find himself confronted with a host of problems that have little to do with traditional physics or chemistry, but which have a great deal to do with human, personal and social, resistance to change. The atomic scientists have recently had a slight taste of this sort of problem and find themselves unequipped, except for their extraordinary personal prestige and strategic position, to deal with it. They know little, and we fear that social science can at present give them little guidance, about the most effective techniques for winning society to their side.

This is precisely the way in which the action researcher defines his job. Not only must he make

discoveries, but he must see to it that his discoveries are properly applied. It is largely in terms of this job definition that the action researcher differs from the ordinary academic scientist.

The relations of the action researcher to the community and to society at large do not, however, begin at the point where he has made his discovery. These relations begin with the very definition of his research problems. Unlike the academic scientist, the action researcher cannot afford to permit his interests and the existing level of knowledge and available techniques completely to dictate his choice of problems for research. He must consider the community interests. It would be most unreasonable of him to expect society to apply the results of his labors if they did not meet community needs. His problems must grow out of the community life. He must learn to sense, not merely the objective problems, but also how the community evaluates its problems; and he must play a role in helping it to articulate its problems. The most pressing problem in the world, from the standpoint of the scientist, must remain a matter of indifference to a community which does not appreciate the problem.

Nor do the community relations of the action researcher end with the choice of a problem, only to be resumed at the point of application of his research findings. The problem must first be so defined that it becomes amenable to investigation in an existing social setting. The design of experiments would be relatively simple if one did not have to consider the reactions of lay collaborators and the general public.

Let us take a simple illustration. For a particular investigation it may seem desirable to stratify a sample by religious creed. For the academic social scientist who confines his studies to the *genus* college sophomore, there is no problem here. All that is necessary is a simple mimeographed questionnaire with appropriate spaces for checkmarks. In the non-academic world this may constitute a serious problem. Many people react with suspicion and antagonism when questioned about their church affiliation: a man's creed is no one's business but his own. The action researcher must give serious consideration to the question of whether it might not be better to recast his experimental design (and therefore his research problem) and get along without this information, than to risk alienating a certain proportion of his respond-

² In the United States, action research is most closely associated with the late Professor Kurt Lewin of the Research Center for Group Dynamics at the Massachusetts Institute of Technology.

ents. If he must have the information, he must devote considerable care to the phrasing of the question, the manner in which the question is introduced, the point in the interview at which it is to be asked, and so on.

Or, to take another illustration, it may seem that the simplest way to find out about stereotypes is to ask people about them. But, if the researcher is working in, say, the Middletown school system, he must seriously consider the possible community-wide reverberations of asking Middletown school children whether they think that all, most, many, few, or no members of a particular minority group are shiftless.

To summarize, the action researcher interacts with the community in which he is working and finds special limitations imposed at every level of his work from the choice of problem areas, the specific formulation of the problem, the selection of procedures, the presentation of his findings, on through to their application. If his difficulties are great, his problems are correspondingly challenging, and the results of his labors can be highly rewarding.

VARIETIES OF ACTION RESEARCH

Having decided that, despite the difficulties, the field of action research is for him, and having established his opening community relations, the prospective action researcher must still define the nature of his work in specific terms.

One may distinguish four varieties of action research. Each variety has some values and each has its own limitations. There are, of course, no sharp lines of demarcation between them and they are not mutually incompatible. Characteristic features of two or more distinguishable varieties may sometimes be observed in a single project.

The first variety may be described as *diagnostic*. It is research which is designed to *lead to* action. In its clearest form diagnostic action research may be described as follows: The research agency steps into an already existing problem situation, preferably by invitation. It diagnoses the situation. For example, it studies the existing community tensions, the sources of tension, the available community resources for dealing with these tensions, and so on, and then it makes various recommendations with regard to remedial measures. The recommendations are not themselves pretested nor are they the objects of special research. They are arrived at by a more or less intuitive process on the basis of

accumulated past experiences and the present diagnosis.

A simple illustration of diagnostic action research is found in an early project of the Commission on Community Interrelations of the American Jewish Congress (1). A series of incidents involving racial and religious tension was followed by a minor riot in front of a synagogue and its environs on one of the Jewish high holy days.

The Commission was called into the situation. Samples of each of the major ethnic groups in the community were interviewed with regard to their attitudes toward one another, their satisfactions, their gripes, their participation in community life and in organizational activities. Institutional leaders were interviewed and a determined effort was made to involve natural leaders of the community. Information was tabulated and cross-tabulated, results analyzed, and various recommendations were made.

Without in any sense attempting to strike a balance sheet on the successes and failures of this project, it may be utilized to illustrate some of the difficulties of this type of action research.

In the first place the need for certain remedies becomes apparent, but, unfortunately, these do not prove to be feasible. For example, one of the main sources of personal frustration, and hence of community friction, in this community is to be found in the housing situation. This is particularly true in the case of the Negro population, most of whom are compelled to live in basements, many of them on a "hot-bed" basis. A public housing project would undoubtedly greatly alleviate the situation. At the same time, there are many sections of the city which are in much greater need of housing projects.

In much the same class are suggested remedies which every one already knows about even before the research work is done, or is in favor of independently of their relation to the problem at hand, but which have not yet been put into effect. An instance in point, from the above mentioned project, is the need for a community center and, in general, for increased recreational facilities. Determined efforts were already being made to secure a community center before the Commission on Community Interrelations appeared on the scene, and these efforts have since met with some measure of success independently of the Commission's recommendation. Not that such recommendations represent entirely wasted effort, for the mere fact that a

research agency of sufficient prestige makes such a recommendation tends to reinforce community action in the desired direction or even may serve as a focal point for mobilizing such action.

Finally one may mention the type of recommendation which people are not sufficiently motivated to accept. An example of such a recommendation from the project we have been discussing is one to the effect that a community council with intergroup representation should be formed to coordinate local activities for civic improvement. It is now almost two years since the recommendation was made, and no such organization has been created.

The important point to stress in connection with the above types of recommendation is that they represent pitfalls in action research. From the viewpoint of an action research agency, its efforts have been wasted insofar as its diagnosis leads to recommendations that are not followed through.

A second variety of action research may be called *participant* action research. To a large extent, this grew out of the weakness often observed in the first variety: namely, that diagnosis does not always lead to action and that often the main difficulty in securing action stems from insufficient community involvement. This type of action research is most frequently associated with Charles S. Johnson of Fisk University and with Ronald Lippitt and Marion Radke of the Research Center for Group Dynamics (3). Its central idea is that the people who are to take action must also be involved in the research process from the very beginning. Not only will they more keenly realize the need for the particular action program finally decided upon, but their "ego investments," to use Lippitt's phrase, are brought in on the side of the action program. Without this collaboration, research diagnoses and recommendations for change tend to stimulate insecurity, aggression, and rationalization rather than motivated efforts to make changes.

An example of participant action research is a survey of minority group problems now being carried out by the Mayor's Committee on Human Relations of a large midwestern city. In this city the Mayor's Committee has the responsibility for trying to improve intergroup relations by investigating anti-minority incidents, combating discriminatory practices, and sponsoring constructive intergroup activities. The purpose of the survey is twofold: (a) to provide information which will guide the committee in its general program, and (b), by publi-

cizing some of the conditions which now exist, to stimulate public support for the efforts of the committee to change them.

These purposes require that the survey be planned and carried out jointly by responsible people in the community and social science consultants with experience in all the technical details of community surveys. In this particular study the consultants are social scientists from Fisk University, the American Council on Race Relations, the American Jewish Congress, and the American Jewish Committee. The consultants have not only a technical but also a public relations function. Success of the survey requires the active participation of several hundred people in the community, and the prestige of the consultants as scientists is very important in building the necessary support. In addition the consultants are almost all minority group members, while the Mayor's Committee consists primarily of majority group members. Cooperation of the consultants and the Mayor's Committee in planning the survey leads to cooperation of the different ethnic groups in the community in carrying out the survey, and this in turn provides an example of the kind of intergroup cooperation which the survey hopes to stimulate in the rest of the community.

To carry out the survey, working committees are set up in a number of areas such as employment, education, housing, etc. Each committee has a technical consultant as adviser. The membership of each committee includes minority group representatives, people with a special interest in or knowledge of the area being surveyed, and individuals with some power over community practices in that particular area. The participation of this latter group is of course the most difficult to secure. It depends on the prestige of the community organization sponsoring the survey, the extent to which popular support has already been secured by advance publicity, and the willingness of these "powerful" individuals to assume the "objectivity role" to which participation in the survey commits them.

The working committees determine the procedures to be followed in making the surveys of their respective areas. The actual interviews are made for the most part by still other people recruited for this purpose. As the data come in they are discussed by each committee and its technical adviser. This discussion broadens the viewpoint of both majority group and minority group members. It sometimes results in attitude changes on the part of the "power-

ful" individuals to whom we have already referred. At the end of the survey each working committee receives from its technical consultant a written report of its findings, and discusses with the consultant recommendations for action based upon them. The members of the committee, having participated in the findings, usually feel a responsibility for seeing to it that something is done about them. At this point the technical consultants retire from the field, and the job of coordinating community efforts for constructive action based on the survey is left to the agency which originally sponsored the survey.

This variety of action research is in a sense a special kind of *diagnostic* action research. Considered as a research technique, it is a method which can be used for only a limited range of problems. Like diagnostic action research it yields primarily facts about a particular community rather than general principles which can guide action in other communities as well. Participant action research is, strictly speaking, more a special kind of action technique than a special kind of research.

If emphasis is placed on participant action research as an action technique, the degree of precision of the research findings is not particularly important as long as the action is being steered into desirable channels (which may themselves have been discovered by prior, and technically more adequate research). There are obvious limitations upon the capacity of lay people to participate in scientific research, and the needs for action may often conflict with certain research requirements. There are many perplexing problems involved here as to the degree to which research processes can be simplified (e.g. the degree to which the need for depth inter-viewing can be reduced so that it can be satisfied by simpler polling operations (2)), the degree to which and the methods by which necessary skills can be imparted to lay people, the degree to which more technical collaboration of skilled research people is necessary, and the manner of integrating the work of the specialists with their lay collaborators.

A third variety of action research, perhaps best described as *empirical*, may be exemplified by many boy's club, settlement house, and other community projects. The basic idea behind this variety of research is to do something and keep a record of what is done and what happens. The research process is primarily a matter of record-keeping and accumulating experience in day to day work.

Ideally the empirical action researcher works with a succession of similar groups. At the beginning of his work with each one he writes down the methods he is going to use with the group and his hypotheses about what changes will take place in the attitudes and behavior of the group members. During the period of his active contact with the group he records what he actually does, what other events take place which seem to have an influence on the group members, and what changes in the group occur. At the end of his work he records whether his hypotheses have been verified or refuted and also any new principles which he thinks may be derived from his experience with this particular group.

An inherent weakness of this type of action research is that conclusions are drawn either from experience with a single group or from experience with several groups differing in numerous uncontrolled ways. Despite this weakness empirical action research may lead to a gradual development of generally valid principles. Excellent illustrations of such development can be found in the progress of clinical medicine.

In empirical action research the same individual has usually been responsible both for the conduct of the action and the conduct of the research. This arrangement has the great advantage that it automatically gives the research worker full knowledge of the details of the action being studied. However the disadvantages are numerous and serious: (1) A great many successful organizers and leaders of group action do not have the ability to formulate their hypotheses explicitly or state their conclusions precisely. Though a group leader may himself develop great diagnostic and operational skill, there is no permanent gain to society if this skill cannot be communicated. (2) The research worker who is also loaded down with action responsibilities is usually unable to take the time to record his observations fully or in some cases even to make the observations in the first place. (3) If record keeping is at all adequate, so much material is usually gathered that it would require colossal efforts to analyze it completely. Since the group organizer is usually already under pressure to begin a new project with another group, he is likely to make a hasty survey of his data and then bury them in his files. (4) Even with the best of intentions it is hard for a research worker to be scrupulously objective in evaluating the outcome of his own action

efforts. Extraneous factors always influence what happens in a group situation, the interpretation of their effects is always somewhat subjective, and it is a great temptation for the research worker to explain away anything that seems to refute his initial hypotheses or cast doubt on the extent of the changes he has been able to produce.

Most of these pitfalls can be avoided if the role of the empirical action researcher is limited to that of an observer or consultant, with no direct responsibility for the conduct of the action he is analyzing. With this arrangement it is necessary to find situations in which group action is already planned or under way and to win the cooperation of the people directing the group action. Continued close collaboration is also necessary if the conclusions of the research worker are to have any influence on the conduct of future action efforts.

A fourth variety of action research, the *experimental*, is controlled research on the relative effectiveness of various action techniques. There is almost always more than one possible way of trying to accomplish something. The problem is to find which is the best. This is research *on* action in the strictest sense of both words.

From the research point of view it is, of course, necessary that the situations in which the alternative actions take place be as nearly alike as possible and measurements be taken before and after. If, in addition, other quantifiable or qualitative data can be gathered during the course of the action for the purpose of throwing light on the dynamics of the changes which take place, so much the better.

Of all the varieties of action research, the experimental has the greatest potential value for the advance of scientific knowledge, since it can provide, under favorable circumstances, a definitive test of a specific hypothesis. It is however the most difficult form of action research to carry out successfully. In addition to all the general difficulties which we discussed in the second section of this paper, experimental action research requires the researcher to be able to predict with considerable accuracy and, to some extent, control the course of social action. Unless he can do this the action techniques whose effectiveness he is investigating will be carried out under the widely differing circumstances characteristic of empirical action research and may even take a form which is completely irrelevant to the hypothesis he is trying to test.

Even if the action phase of the experiment goes

off as planned, the scientific value of the project may be lost because the necessary measurements are not carried out properly. All action research requires that measurement techniques be constructed and applied with community relations continually in mind. Experimental action research must conform to this general requirement, but in addition it is necessary that the measurement techniques be capable of registering changes in attitudes and behavior which are often very small. And these measurement techniques, once devised, must be applied at precisely the right time and under precisely the right conditions if they are to provide a valid test of any hypothesis.

From the standpoint of maintaining control over the experimental situation, it is most convenient for the research agency to carry out both action and measurement itself. For example, a community center may permit the introduction of two alternative programs into its work with children, the programs being executed and evaluated by research agency personnel. This arrangement, however, leaves unanswered the problem of getting the results of the research applied. Application of the research findings requires a demonstration that the procedure which has been shown to be most effective is practicable from the standpoint of an action agency. Sometimes an extensive "selling program" is necessary to induce action agencies to take advantage of the research results.

These difficulties can be largely avoided if the research program is planned from the beginning in collaboration with an operating agency which takes responsibility for seeing to it that the necessary action is carried out. Since the action agency is cooperating in an effort to find answers for its own program, it is ready to proceed on its own initiative to use these answers, and often to publicize them among other action agencies. Ideally what is needed is a collaborating agency which is already convinced of the desirability of working towards a particular goal, which holds a pragmatic attitude towards its methods, and which is willing to accept the possibility that it does not necessarily know the best way of accomplishing its goal. What is perhaps most surprising to anyone who first enters the field of action research is the large number of action agencies that are not only willing but eager to accept experimental guidance.

But even under optimum circumstances it is more difficult to maintain proper experimental controls

in an action program carried on by a collaborating agency. Conflicts always arise between the requirements of the action research program and the demands of other operations in which the agency is engaged. Maintaining comparability among the various action techniques under investigation requires that each follow a controlled and predictable course; but even in the best regulated agencies programs involving people who are not being paid for their time rarely follow such a course. Successful experimental action research requires an extraordinary amount of planning and cooperation on the part of everyone connected with the program.

A current project of the Commission on Community Interrelations will serve to illustrate both the promise and the pitfalls of experimental action research. The problem which gives rise to this project is a common phenomenon of intergroup behavior: the preservation of unfavorable ethnic stereotypes by a process of "isolating" the individuals who do not fit the stereotypes from the groups to which they belong. The offending group membership of these individuals may still be recognized on a purely nominal level, but the "reality feel" of the group name as applied to them is lost; they are seen as exceptions, and favorable experience with them does not bring about any general reduction in prejudice against members of their group.

The specific hypothesis under investigation in this project is the following: Where friendly feelings characterize the relationships between members of a group of mixed ethnic composition and individual differences from the stereotypes become apparent, the "isolation" process can be appreciably lessened and the generalization of the newly developed feelings of friendship to the entire ethnic group promoted if the group leaders frequently call attention to the ethnic affiliations of the group members. In other words, the hypothesis is that the action of a group leader in calling attention to the ethnic affiliations of the group members tends to increase the probability that each liked individual will be regarded as a *representative* of his ethnic group instead of an exception from it.

The experiment is being carried out at a Saturday afternoon recreation center in a large metropolitan community. The center is attended by white and Negro children from the neighborhood, which is one of the tension areas of the city. At the center they play in mixed groups under the leadership of trained group workers, some of whom are white and some

Negro. There is a wide range of activities which they can choose, and most of the children seem to find the experience very enjoyable.

The experimental design was simply to form two matched sets of six groups each and to arrange that in one set of six groups the group leaders would call attention as often as possible to the mixed ethnic composition of the groups when the children were having pleasant experiences together, while in the other matched set of groups the group leaders would avoid calling attention to the mixed character of the groups as much as possible. Four types of measurement were included in the original design: (1) detailed process records of group activity and behavior of individual group members, kept by the group leaders; (2) a disguised pictorial test of Negro-white attitudes, given at the beginning and end of the experiment; (3) a behavioral test of Negro-white attitudes, given several times during the experiment; and (4) repeated interviews with two children from each of the twelve groups.

As the experiment progressed, difficulties developed on both the action and the measurement side. On the action side it developed that the group leaders had no clear conception of the nature of the experiment and very little sympathy with it. Consequently very few of the "attention" group leaders were making any effort to call attention to the mixed character of their groups, and their process records showed that the subject was not coming up of its own accord. But it also turned out that even an "attention" group leader who sincerely desired to carry out the role assigned him, found himself at a loss as to how to go about it. All the training of these group workers predisposed them to take a "non-directive" role, helping their groups to channel and articulate their interests, but never actually bringing up a topic in which the group was not already interested. It required several months of effort by an experienced group worker on the CCI staff to develop in the "attention" group leaders a clear understanding of what they were supposed to do, a real interest in doing it, and an ability to do it in the midst of the innumerable distractions involved in group work with active and uninhibited youngsters. Unfortunately by the time this was accomplished the experiment was nearly over, so that most of the "attention" groups did not actually have their attention called to their mixed ethnic composition more than two or three times in any clear-cut fashion.

The situation demanded extremely precise and sensitive measurement techniques in order to gauge the effects of what little the group leaders had accomplished. Unfortunately during the experiment it became clear that the measurement techniques we were using were not capable of registering accurately slight changes in degree of prejudice, especially among the rather unprejudiced children who formed the great majority of our subjects. A simple verbal test of prejudice and an elaborate projective test were devised to meet this need, but by the time they were ready for use the recreation center had closed for the summer. A complicated and expensive post-experimental testing program had to be added to the original experimental design.

It is still too early to tell whether these additional efforts will prove sufficient to provide an adequate test of the hypothesis that the experiment was intended to probe, or whether an entire new experiment will be necessary. However, it is clear by now that the hypothesis can be tested experimentally,

and it seems very doubtful that it could be tested adequately in any other fashion.

CONCLUSION

In this discussion we have not attempted to gloss over the difficulties of action research. We have certainly not presented a social panacea. We have attempted to describe dispassionately the way in which we see the field of action research. If, occasionally, our enthusiasm has shown through, it is because we do not really see it dispassionately. We see in action research a field of intense theoretical interest as well as tremendous practical and social value.

REFERENCES

1. BELLOW, B., BLUM, M. L., *et al.* Prejudice in Seaside. *Human Relations*, 1947, **1**, 98-120.
2. LAZARSFELD, P. F. The controversy over detailed interviews—an offer for negotiation. *Pub. Opin. Quart.*, Spring, 1944, 38-60.
3. LIPPITT, R. and RADKE, M. New trends in the investigation of prejudice. *Ann. Amer. Acad. Pol. Soc. Sci.*, 1946, 167-176.

ARE PSYCHOLOGISTS WITHOUT PH D DEGREES TO BE BARRED FROM MEMBERSHIP IN THE APA?

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WE BELIEVE it is fortunate that the Council of Representatives deferred final action until 1948 on the recommendations of the Policy and Planning Board (*Amer. Psychologist*, 1947, 2, 191-8). These recommendations were three in number: (1) State certification should be sought on the basis of the doctor's degree and one year of experience; (2) after 1950 the doctor's degree should be required for election as an Associate Member of the APA; and (3) Graduate Departments of Psychology should discontinue the granting of Master's degrees for lower level professional training.

Although surely they were not so intended, these recommendations appear to some of us to have been spawned in a committee-room atmosphere in which the PhD's present convinced themselves that the world should be saved for psychology (perilously narrowed to PhD Psychology) without devoting much consideration to the realities of practical affairs in that world.

From the recommendations of the Board it would not appear that its members had read or fully grasped the meaning of Shartle's helpful and realistic description of 28 positions in psychology which appeared in December, 1946 (*Amer. Psychologist*, 1946, 1, 559-582). Shartle's analysis of the employment situation in psychology indicated that many positions are being filled by persons with Master's degrees only, and in point of fact there are a few that are filled by holders of a BA degree after having completed an undergraduate major only. To make clear the real job situation, a summary of Shartle's informative report is presented in Table 1.¹

It will be noted that nine positions are being filled by those with a BA or less. Of the eighteen positions that are being filled by MA's, only one is definitely a stepping stone to the PhD whereas seventeen can be

filled by terminal MA's. In fact, it is doubtful whether very many PhD's who are fully prepared to assume the heavy responsibilities of research, teaching, and major administrative posts would be fitted by temperament or inclination to carry out the day-by-day round of routine testing, examining, interviewing, and statistical drudgery that is required if psychological services are to be made as widely available as public needs and demands require.

As further evidence we may be permitted to cite present-day practices within our own state, since, despite a large rural population, Minnesota provides a fair example of a vigorously developing program of applied psychological services. The status of applied psychology in Minnesota is shown by a membership of 93 in the January 1947 Directory of the Minnesota Society for Applied Psychology.² Earning their living in bona fide applied jobs we find 14 members with a BA only, 43 with an MA only, 9 with a PhD, and 1 with a ThD. This is a total of 67. Holding academic positions, with interest in teaching and research, though not without an interest in promoting applied psychology, there are 0 persons with a BA only, 4 with an MA only, and 19 with a PhD. There are three housewives each with an MA.

It is obvious that the PhD in Minnesota is a teaching and research degree. The real work of applied psychology, however, is being done by BA's (N = 14) and MA's (N = 43). Here are some of the job titles for those with BA or MA degrees: vocational counselor, director of business and industrial personnel, employment specialist, psychological examiner, psychologist in psychiatric institute, vocational rehabilitation counselor, senior psychologist, occupational analyst, employment manager, clinical psychologist, social worker, supervisor of aptitude testing, senior counselor, personnel research, speech clinician, psychometrist, and religious counselor.

¹ This summary was prepared by Elizabeth Peterson, a graduate student at Minnesota who presented the Shartle report at one of our graduate seminars.

² In November 1947 the membership list had grown to 123.

There are three aspects to the problem that the APA as a *professional* organization must constantly face: (1) there are many levels and types of applied psychological work that must be recognized; (2) there are demands for psychological service which

It is no less important for departments of psychology to recognize these obligations. The excellent Report of the Harvard Commission on Psychology states: "College and graduate instruction in psychology should serve the following purposes: a)

TABLE 1
Educational requirements for twenty-eight positions in psychology (after Shartle)

POSITION	EDUCATIONAL REQUIREMENTS		POSITION	EDUCATIONAL REQUIREMENTS	
	Required	Preferred		Required	Preferred
1. Employment Interviewer	No college	BA	Senior Psychologist	PhD	
2. Personnel Technician, Civil Serv.*	BA		14. Psychologist, Child Guid. Clinic	MA	PhD
3. Occupational Analyst	Some college	BA, MA	15. Psychologist, Public Schools	MA	
4. State Civil Service Psychologist			16. Counselor, College	MA	PhD
Student Psychologist	BA		17. Psychologist, Juvenile Correctional Institution	MA	PhD
Average position	MA		18. Psychologist, Penal Institution	MA	PhD
Senior Psychologist	MA	PhD	19. Court Psychologist	MA	PhD
5. Employment Counselor	BA, MA		20. Research Psychologist, Hospital	MA	PhD
6. Vocational Advisor, VA	BA	MA, PhD	21. Psychologist, Hospital	MA	
7. Psychometrist	BA	MA	22. Public Opinion Survey Psychologist	MA	PhD
8. Personnel Technician, Industry	BA	MA, PhD	23. Educ. Research, College	MA	PhD
9. Psychologist, Physically Handicapped	BA	MA	24. Psychologist, Clinical, General	MA	PhD
10. Vocational Counselor, Community Agency	MA		25. Psychologist, College Teaching		
11. Personnel Psychologist Industry	MA	PhD	Graduate Assistant	BA	MA
12. Psychologist, Mental Hospital			Instructor	MA	PhD
Intern	BA		Asst. Prof. and up	PhD	
Assistant Psychologist	MA		26. Director of Psychology, State	PhD	
Chief Psychologist	PhD		27. Consulting Psychologist	PhD	
13. Psychologist, Feeble- minded Institution			28. Research Psychologist, General	PhD	
Intern	BA	MA			

* The case of the Personnel Technician, Civil Service is an interesting example of a rival professionally trained group getting in on the ground floor and being able to set standards without regard for the technical qualifications needed to prepare merit examinations of high reliability and validity. Prior to 1919 all such examinations were patterned after essay school subject examinations. Since then, steady advance has been made in improving such examinations as *measuring* instruments. Ultimately such technicians, presumably will be required to be MA's in psychology and an increased number of supervisory positions will be held by PhD's in psychology.

PhD's are sometimes unfitted, or sometimes unwilling, to perform, or for which they are in vastly short supply; and (3) there are urgent and pressing needs of society that must be met by the organized profession of psychology. The facts confronting us require us to set up operating standards and procedures which measure up to and are also within the bounds of a real world of practical affairs.

As part of a general college education, b) as a subordinate but valuable adjunct in preparation for other fields (e.g., education, law, medicine, business administration, the ministry, engineering, etc.), c) as a subject of academic research and teaching, d) as a field of applied professional activity—psychotechnology, personnel work, educational and vocational guidance, clinical psychology, etc." (Gregg, A., and

others. *The place of psychology in an ideal university*. Cambridge: Harvard University Press, 1947. Pp. 42.)

It seems to us to be poor applied psychology to set up educational requirements for these jobs in applied psychology without a realistic survey of what their holders actually do and what salaries they are now paid and are likely to get in the foreseeable future. So far as we know, no one has demonstrated on any basis that psychologists who are now working with BA degrees or MA degrees are inadequately trained when due consideration is given to what they do and what they can be paid. We know of no specific evidence that these jobs are at all comparable in professional level to the physician's, for example, yet many psychologists seem to be defining all occupational ideals with an eye to MD training standards.

No one will dispute that it is desirable to push the levels of training as high as the returns warrant and the public will sanction, but in setting out to do this we will be well advised to establish from the beginning that we have the interests of the public and of our own trainees equally in mind.

It has actually been suggested by some (secure PhD's no doubt) that we should train universally to the PhD level. Then, as economic recession occurs, these highly trained people will willingly enough take what is offered and will, of course, displace their lesser trained brothers in routine jobs! This attitude seems to us to be particularly short sighted. Psychologists should be the first to recognize the frustrations and sense of personal defeat engendered when persons of PhD training and responsibilities are forced into jobs that they believe are less demanding. Furthermore, it would be grossly unfair to use such a device to supplant those who have performed satisfactorily with the MA degree.

While some psychologists may be or should be like physicians and surgeons who undergo an eight or nine year training program or like the medical specialists who attain the status of diplomates only after eleven or twelve years of training, many others can more fairly be compared to engineers or chemists who need only a four or five year course to perform creditably. State licensing of engineers ordinarily does not go beyond an educational requirement of the BS degree.

For some positions within the special field of clinical psychology, nearest non-medical kin to psychiatry, a more valid argument may be advanced for the PhD as a requirement. But this requirement can be imposed as a standard for admission to the Divi-

sion of Clinical and Abnormal Psychology without barring otherwise qualified persons from membership in the APA. Even this, however, does not seem desirable. If it were done, then a realistic plan would need to be developed for the creation of a clinical psychology technician group who would do most of the routine testing and clinical work.

Do we really want to advance psychology as a science and as a profession? Or do we want to organize a society to shield the PhD "in-group" under the rationalization of an ardent desire to protect the public? What will be the fate of those to whom we deny membership and of the *standards* of professional training which we would thus remove all chance of controlling? If, by our actions, we shun responsibility for MA training, we shall soon see it taken over by education, social work, engineering, and business schools, without any assurance that such programs will include sufficient basic psychotechnological training to insure competence on the job.

It is to be hoped that the Policy and Planning Board will, during 1948, really investigate the present grass-roots status of applied psychology and the work actually being done in the vocational counseling bureaus, the psychological clinics in schools and out, the use of psychologists in state institutions, the personnel departments in business and industry and civil service, the opinion polling organizations, and the market research and advertising agencies.³

The APA has survived the labor of a major reorganization and has established the American Board of Examiners to certify at the top professional level. It would now appear to be the time to increase and conserve our newly created professional solidarity. Yet the recommendations of the Policy and Planning Board tend in the direction of separatism, exclusion, and fragmentation. And they do this at a time when we have as yet survived no real State or legal tests of our association's well being. Let the American Board of Examiners protect the top professional specialists; let the Conference of State Psychological Associations try its hand at state licensure. But for the immediate years ahead, let us stand together as one body, from student affiliates to PhD's.

We propose, therefore, an American Psychological Association composed of *all* of the academic psychologists and *all* qualified professional practitioners on *all* levels of bona fide psychological service, organized out of the strength of a huge membership, men and women serving society in multifarious roles.

³ The 1948 APA Directory will aid in closer study of post war employment of psychologists.

SOLDIER INTELLIGENCE IN WORLD WARS I AND II¹

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CATTELL (2), Lentz (3), Maller (6) and others, arguing from the observation that family size is inversely related to test performance, education and socio-economic level, have contended that the mean I.Q. of the population is declining at the rate of three or four points per generation. In contrast, data collected by the Personnel Research Section, AGO, during the closing months of World War II indicate at least for that fraction of the population selected for military service, that performance on a group test of the kind usually described as measuring "general learning ability" or "verbal intelligence" has markedly increased from World War I to World War II. The study here reported was a byproduct of another research and is not so unequivocal as one should like. Nevertheless it offers direct evidence on a problem hitherto attacked only indirectly, and suggests that the future may not be as black as the eugenicists would have us believe.

In the course of establishing the score equivalence between certain Army tests and several commercial ones, the Wells Revision (Form 5) of Army Alpha Examination was administered to a representative sample of the World War II draft. The population consisted of 768 white enlisted men selected on the basis of Army General Classification Test (AGCT) scores, as recorded on their qualification cards, to yield a distribution by Army Grade like that for all inductees entering during 1943. The distribution desired and that obtained are compared below:

ARMY GRADE	ARMY STANDARD SCORE	INDUCTEES ENTERING IN 1943	EXPERIMENTAL SAMPLE
I	130 and above	6.4%	6.4%
II	110-129	28.6	28.8
III	90-109	31.1	30.7
IV	60-89	28.5	28.8
V	below 60	5.4	5.3
		100.0%	100.0%

Since the correspondence was very close, the 768 men without further selection were administered the Wells Revision (Form 5) of Army Alpha Examination.

The correlation between Wells Alpha and AGCT was .90, indicating a very large degree of community in the functions measured. The AGCT yielded a mean Army Standard Score of 98.3 and a standard

TABLE 1
Centile equivalents of scores on AGCT and on Wells Alpha Examination, Form 5, for a sample of 768 white enlisted men

CENTILE	AGCT STANDARD SCORE	ALPHA RAW SCORE	CENTILE	AGCT STANDARD SCORE	ALPHA RAW SCORE
99	145	194	50	100	104
95	132	175	45	97	97
90	126	160	40	94	90
85	122	150	35	91	82
80	118	143	30	87	74
75	115	136	25	83	66
70	112	130	20	78	58
65	109	122	15	73	50
60	106	116	10	67	38
55	103	110	5	59	23
			1	42	3

deviation of 22.7. The mean raw score on Wells Alpha was 101.2 and the standard deviation was 46.0. Centile norms for the two tests are presented in Table 1.

The comparison of the intelligence test performance of soldiers in World War I and World War II is complicated by the fact that for the purposes of the major study it was necessary to test the World War II group with the commercially available Wells Revision, Form 5 of the Alpha Examination instead of the original Alpha used in World War I. However,

AGO, for statistical assistance, and to Lt. Keith Broman, AGD, who collected the data in the field. However, the contents of this paper are the responsibility solely of the writer and are not to be regarded as representing the point of view of the War Department.

¹ Acknowledgment is made to the staff of the Personnel Research Section, Personnel Research and Procedures Branch,

there is general agreement that the two versions yield very similar score distributions, especially in the upper quartile.

Bingham (1, p. 330) states: "The Wells Revision . . . make(s) the examination more suitable for use in schools and industries while preserving the irreplaceable norms. Scores which fall in the upper quartile of the distribution are directly comparable with the original Alpha scores." The published norms (7) on Wells Alpha for the "general adult population" agree closely with norms obtained on the original Alpha for literate white soldiers of World War I. Lorge (4) has published data indicating that the Wells Alpha yields larger raw scores than

agreement with a median of 61 for Wells Alpha as cited in the published norms. However, a raw score of 62 reaches only the 22nd centile of the World War II distribution. Conversely, a raw score of 104, the median for the World War II group, falls at the 83rd centile of the World War I population. Such differences are, of course, highly significant.

No satisfactory answer can be given to the fundamental question of whether a similar difference exists between the national population of 1917-18 and 1940-45 from which the troops were drawn. Indeed, the members of the armed forces constitute by far the largest and most representative sample of the general population ever subjected to psychometric procedures. Considering the greater size of the Army in World War II, it seems likely that the draft population during the recent conflict was more nearly representative of the general population than was the case in World War I. However, the size and direction of selective differences between the armies and the populations from which they were drawn can only be guessed at.

Considering only the Army samples here reported, many factors can be adduced to account for the superiority of the World War II group. Only a few can be mentioned here.

1. For soldiers in World War I objective tests were wholly unfamiliar. Most soldiers in World War II had had considerable experience with them in schools, industry, etc. Previous practice on AGCT probably served to raise the Alpha scores of the men here reported. However, practice effects on AGCT produce an average gain of only about five points in taking a second form of the same test and would be even smaller in taking a different test, as in this instance. It seems unlikely that greater familiarity with objective tests can account for a very large part of the superiority of the World War II sample.

2. Numerous investigators have reported that as a nation we are increasing in height, in weight and in longevity. The indirect influence of improvements in public health and nutrition may have operated to increase test performance, though to an unknown degree.

3. The Army of World War II was definitely superior to that of World War I in amount of education. Since amount of schooling is correlated with test performance (e.g., 5), it seems likely that educational differences contribute heavily to the superior test performance of the World War II group. In the present study, the number of years of education completed by each of the 768 enlisted men was re-

TABLE 2

A comparison of performance on Alpha Examinations of 48,102 white enlisted soldiers of World War I and a representative sample of 768 white enlisted soldiers of World War II

CENTILE	WORLD WAR I ² ORIGINAL ALPHA RAW SCORE	WORLD WAR II WELLS ALPHA, FORM 5 RAW SCORE	CENTILE	WORLD WAR I, ORIGINAL ALPHA RAW SCORE	WORLD WAR II, WELLS ALPHA, FORM 5 RAW SCORE
99	166	194	50	62	104
95	137	175	45	57	97
90	120	160	40	52	90
85	108	150	35	48	82
80	98	143	30	44	74
75	91	136	25	39	66
70	84	130	20	35	58
65	78	122	15	30	50
60	72	116	10	25	38
55	67	110	5	18	23
			1	8	3

² Calculated from *Memoirs* (9), p. 748, Table 281.

does the original form, but that the difference is not greater than five percentile points.

If it is conceded that scores on the Wells revision correspond closely to scores on the original Alpha Examination, it is difficult to escape the conclusion that soldiers of World War II were markedly superior to their fathers in the functions measured by this test.

As may be seen in Table 2, the differences between the two groups are very large throughout the range, and are as conspicuous above the seventy-fifth centile, where the equivalence of raw scores on Army Alpha and Wells Alpha is best established, as they are below this point. For the principal literate white sample of World War I reported in the *Memoirs* (9), the median raw score is 62. This is in close

corded from his qualification card. The mean was 10.0 years; the S.D. was 3.0 years. The correlations between years of education and test score were .74 and .75 for AGCT and Wells Alpha, respectively. Comparable statistics for the principal literate white sample of World War I soldiers have been computed from the *Memoirs* (9), Table 281, p. 748. The correlation between Alpha and years of education completed was .63. The mean education was 8.0 years; the S.D. was 2.6 years. As a rough device for estimating the amount of difference in Alpha performance attributable to educational differences, the columns of Table 281 (*Memoirs*) were reweighted to conform to the distribution with respect to education of the World War II sample. Decile values were then computed from the reweighted table, with the following results:

DECILE	WORLD WAR I UNWEIGHTED RAW SCORE	WORLD WAR I WEIGHTED RAW SCORE	WORLD WAR II RAW SCORE
90	120	144	160
80	98	125	143
70	84	110	130
60	72	97	116
50	62	85	104
40	52	73	90
30	44	61	74
20	35	49	58
10	25	34	38

Weighting of the World War I findings to make the population comparable in education to the World War II sample removes over half of the obtained difference in test scores between the two groups. If additional allowance is made for the progressive increase in the length of the school year and for improvements in school facilities and in the professional preparation of teachers, it is evident that the superior test performance of the World War II group *can* be accounted for largely in terms of education.

While the data presented in this study offer no proof, the writer is inclined to interpret them as indicating that the present population is superior in mental test performance to the population of a generation ago, and that a large proportion of this superiority is a consequence of more and better education for more people.

The *magnitude* of the improvement in test performance from World War I to World War II cannot be established on the basis of existing data, nor is it possible to estimate it very precisely even for Army populations. The major potential source of error in

the present study is the use of two different measuring instruments, Army Alpha and Wells Alpha, in comparing the World War I and World War II groups; but a comparison which involved only Army Alpha would not eliminate difficulties of interpretation. Various items of the original version have grown obsolete and cannot be assumed to have remained constant in difficulty. Yet omitting such items, or replacing them with new material would alter the instrument and introduce, though perhaps in lesser degree, the same source of error which may be operative in the investigation reported here.

The findings of the present study, despite their limitations, cast doubts on Cattell's contention that the national I.Q. is dropping at a rapid rate. His references to I.Q. changes seem to imply a belief that the population is declining with respect to intelligence as measured by psychological tests. The present study indicates a change in the opposite direction, though one cannot rule out the possibility of a decline in the purely native component of intellectual performance were it possible to measure it. On one point the writer would be in complete agreement with Cattell,—viz., that changes in the population, as well as the obsolescence of test content, make it desirable that test norms be subjected to periodic revision.

REFERENCES

1. BINGHAM, W. V. *Aptitudes and Aptitude Testing*. Harper: N. Y., 1937.
2. CATTELL, R. B. Effects of human fertility trends upon the distribution of intelligence and culture. Pp. 221-233, in *Intelligence: Its Nature and Nurture*. Thirty-ninth Yearbook of the National Society for the Study of Education, Part I. Public School Publishing Company: Bloomington, Ill., 1940.
3. LENTZ, T. F., JR. Relation of I.Q. to size of family. *J. Educ. Psychol.*, 1927, **18**, 486-496.
4. LORGE, IRVING. A table of percentile equivalents for eight intelligence tests frequently used with adults. *J. Appl. Psychol.*, 1936, **19**, 392-395.
5. LORGE, IRVING. Schooling makes a difference. *Teach. Col. Rec.*, 1945, **46**, 483-492.
6. MALLER, J. B. Vital indices and their relation to psychological and social factors. *Human Biol.*, 1933, **5**, 94-121.
7. WELLS, F. L. *Manual of Instructions for Revised Alpha Examination, Form 5*. Copyright 1932. The Psychological Corp., 522 Fifth Ave., New York, N. Y.
8. STAFF, PERSONNEL RESEARCH SECTION, CLASSIFICATION AND REPLACEMENT BRANCH, AGO. The Army General Classification Test. *Psychol. Bull.*, 1945, **42**, 760-768.
9. YERKES, R. M. (ED.) Psychological examining in the United States Army. *Memoirs of the National Academy of Sciences*, 1921, **15**.

PROGRESS REPORT OF THE COMMITTEE ON PSYCHOLOGICAL SERVICE CENTERS

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LAYMEN are becoming increasingly aware of the services psychologists can render. It is, therefore, more than ever incumbent upon the profession to keep them informed as to the nature of the services available and where they may be obtained. The office of the American Psychological Association receives frequent calls for such information, and there are probably few members who have not been asked for help in distinguishing qualified psychologists from charlatans on the one hand and from partially-trained and unqualified psychological workers on the other. The task before the Association is a continuing one.

In 1931, a committee representing the Clinical Section of the American Psychological Association was appointed for the purpose of undertaking a survey of the training and duties of clinical psychologists in the United States. It reported¹ that about 800 psychologists were engaged in psychological work that they themselves would define as clinical, but that there was little uniformity in training or standards. The committee was continued and authorized to clarify terms, suggest standards of training, and prepare a Guide Book to Psychological Clinics.² The Committee composed of Andrew W. Brown, Robert A. Brotemarkle, Maud A. Merrill, and Clara Harrison Town, tabulated questionnaire data and prepared a directory furnishing information concerning 150 clinics in the United States.

Some years ago, the American Association of Applied Psychology recognized the nature of the responsibility, and in 1940 set up a committee on Clinic Certification under the chairmanship of William J. Morgan. This committee conducted a sur-

vey³; From the 161 replies, a tentative list of psychological clinics was published,⁴ but no further action was taken.

In November 1943, the AAAP reconstituted the Committee on Clinic Certification⁵ under the chairmanship of David Shakow, the other members being Jerry W. Carter, Jr., Norman Fenton, Donald M. Lindsley, and C. M. Louttit, and charged it with (1) preparing standards for psychological clinics, (2) making a survey of existing clinics, and (3) recommending clinics for certification. This Committee had no physical meeting but working by mail sought to define a psychological clinic tentatively among themselves and consider such questions as the following: (1) Should separate standards be set up for diagnosis, treatment, training, research, community relationships? (2) Since certification requires the evaluation of personnel, facilities, and the quality of work done, what general standards should be set up and what procedures should be used in evaluation? Must the Committee limit itself to data derived from questionnaires, or can means be provided for evaluations based on personal visits by members of the Committee or its representatives? (3) What overlap is there between the problems raised by clinic certification and those of individual certification and graduate school certification? (4) What should be our relationship with and attitude towards certifying agencies of other groups which set up standards, e.g., the National Committee for Mental Hygiene which supervises Child Guidance Clinics? (5) Shall we concern ourselves with the problem of the certifica-

³ "Proceedings and Reports of the Fifth Annual Meeting of the American Association of Applied Psychology," *Journal of Consulting Psychology*, 1942, **6**, 25.

⁴ "A Tentative List of Psychological Clinics in the United States," *American Association for Applied Psychology, Bulletin* No. 9, February, 1942.

⁵ Proceedings and Reports of the Seventh Annual Meeting of the American Association for Applied Psychology, *J. consult. Psychol.*, 1944, **8**, 14.

¹ Clara Harrison Town, Maud A. Merrill, Andrew W. Brown. "Report on the Survey of the Training and Duties of Clinical Psychologists," *The Psychol. Exchange*, **2** (August-September, 1933), 109-114.

² "Report of Committee of Clinical Section of American Psychological Association," *The Psychological Clinic*, **23** (January-June, 1935), 140.

tion of specialized technical services, such as remedial reading clinics, which may not have psychologists on the staff but which may meet certain standards?

From this Committee's discussions two broad principles were felt to have emerged: (1) That reasonably high standards should be established in order to help put the psychological clinic situation in order; (2) That since the field covered by clinical services is almost always one in which several different professions are involved, it is desirable for the psychological group to do all in its power to work cooperatively with the other groups in order to define functions and achieve standards of performance which meet the needs of the community.

From a perusal of the letters exchanged by members of this committee it was evident that its inability to produce tangible results was due not only to the difficulties of the war years, but also to the nature of the task it had set itself, namely, that of defining a psychological clinic. Accordingly, in October 1944, the APA and the AAP jointly reappointed the committee, adding two new members, and renamed it the Committee on Standards for Psychological Service Centers.⁶ While no change in the task of the committee was mentioned, the change in name is significant. The word "clinic" apparently means something quite specific, in terms of services rendered, but qualified persons differ as to just what that specific meaning is. The term "center," on the other hand, while it has come to imply qualified service, does not indicate the nature of the service, or whether out of, say, half a dozen services that a clinic might be expected to render, three or four, or all six are provided.

Owing largely to the increased involvement of psychologists in the war effort, however, little could be accomplished. In September 1945, the newly reorganized APA appointed a new committee under the chairmanship of Jerry W. Carter, Jr. This committee reviewed the correspondence of previous committees, tabulated the replies of the 1940 committee questionnaires, recording the opinions of the respondents as to information needed and minimum standards for listing and for approval, and formulated a tentative questionnaire.

In 1946, Dr. Carter and Wm. Clark Trow were asked to form a new committee under the chairmanship of the latter, and were charged with the responsi-

bility of getting out a directory. In order that the membership of the committee might represent the divisions chiefly concerned, each division was requested through its Secretary to make nominations. From this list of nominees the following members were chosen: Consulting, Robert A. Young; Industrial and Business, Vernon P. Scheidt; School Psychologists, Bertha M. Luckey; Counseling and Guidance, C. Gilbert Wrenn. Clinical and Abnormal was already represented by Jerry W. Carter, Jr.; and Educational Psychology by Wm. Clark Trow.

This committee operated for a time by mail, and two physical meetings were held in Detroit. Building on the work of its predecessors, it formulated a questionnaire which was studied and revised, and has since been given a trial run. While fewer questions might have been included if the purpose were merely to give a brief description of each center that would be useful for a directory, the Committee realized that it had been charged with a further responsibility, namely, to obtain information on the basis of which standards for service centers can be worked out.

The Committee decided for the time being to define a center arbitrarily as two or more psychologists practicing at an established address, at least one of whom is a Fellow of the APA. On this basis the request on Part 4 of the 1948 Yearbook questionnaire was sent out. The returns indicated that there are so many variations in the organization of acceptable services that the scope of the inquiry should be broadened. This view was in harmony with that of the Board of Directors as expressed in its statement of policy for the Committee formulated at the Detroit meeting.

As a consequence, the questionnaire will be sent not only to those who replied to the Yearbook questionnaire, but to all members who apply, whether Fellows or Associates, who are in charge of psychological work, whether as director of a center, member of a team, or independent operator. Return postal cards are being prepared to go out to the membership. Those who fall in any of the above categories and who have not already requested a questionnaire should fill out and return the postal card. The information obtained from the questionnaires will be used to establish standards for deciding which centers will be included in the directory of psychological services which the APA plans to print.

⁶ Summarized Proceedings and Reports of the Eighth Annual Meeting of the American Association for Applied Psychology, *J. consult. Psychol.*, 1945, 9, 11-13.

FIRST POST-WAR MEETING OF THE PROFESSIONAL ASSOCIATION OF GERMAN PSYCHOLOGISTS (BERUFSVERBAND DEUTSCHER PSYCHOLOGEN)¹

The first meeting of German psychologists after the war was held in Bonn on August 29 to September 2, 1947. It was called by the newly founded Professional Association of German Psychologists (Berufsverband Deutscher Psychologen), an organization of applied psychologists. The address of the organization is Hansastrasse 12, Hamburg 13. It was founded by Jakobsen, who is the president, and Max Simoneit, the former scientific director of German army psychology. Simoneit, incidentally, was among the group which plotted the attempt on Hitler's life on July 20, 1944.

The chief significance of the meeting was the fact that German psychologists met for the first time since the end of the war and that many organizational questions were clarified. The immediate aim of the new organization is the establishment of the profession of applied psychology on a sound basis, first in the British Zone, and later on, if possible, in all zones. Psychological quackery is to be opposed forcefully and the certification of consulting psychologists to be aimed for, similar to the practice in the medical profession.

The old German Psychological Society (Deutsche Gesellschaft für Psychologie) was reactivated in January 1947. It will have the character of a scientific academy, nomination to which will depend on scientific merit. Cooperation between the Society and the Association is provided for on the basis that the president of the former will automatically be also vice-president of the latter.

The meeting was opened with addresses by Jakobsen, outlining the aims of applied psychology, and Simoneit, reviewing the history of German psychology since 1918. These were followed by the presentation of 33 papers.

General psychological problems (6 papers). Rudert (Leipzig) spoke on a genetic theory of expression; Erismann (Innsbruck) on stroboscopic phenomena; Fuchs (Marburg) on motivation according to Ach; Paul Skawran on new aspects of Wundt's theory of feeling; Wilhelm Witte (Heidelberg) on the theories of schools of psychology in relation to the theories of

Uexküll; and Ludwig Klages on behaviorism and physiognomy.

Personality (10 papers). Johann Ruppert discussed the characterology and sociology of rogues; von Kunowski spoke on fate and character as a psychological problem. Six papers were concerned with various aspects of graphology; they were presented by Robert Heiss (Freiburg), Minna Becker (Hamburg), von Foerster (Hamburg), Kurt Seesemann, Renthe-Fink (Bonn) and Pophal (Hamburg). Becker developed the thesis that the scribbles of pre-school children are of greater diagnostic significance than the handwritings of school children, striking disharmonies in the scribbles being indicative of conflicts. Two new projective techniques were introduced by Ehrig Wartegg (Thüringen) and Wollrab (Bonn).

Problems of adjustment (8 papers). Walter Hemming, a psychiatrist who had just returned from captivity, spoke on psychological disturbances among prisoners of war. Martha Moers (Bonn) reported on the vocational rehabilitation of cases of brain injury. Elisabeth Schliebe-Lippert reported German youth to be of extreme reticence and distrust. Ludwig Zeise (Munich), on the basis of experience with the selection of elementary-school teachers, found the candidates generally uninhibited, free, accessible, mature and more oriented toward practical goals than toward theoretical problems. Wilhelm Carspecken spoke on wayward youth.

Various (9 papers). Heinrich Düker (Marburg) reported on increased mental efficiency from pervitin, caffeine and certain hormone preparations, while Wieding corroborated some of Düker's findings with pervitin. The report by Theodor Scharmann on psychology in Austria indicated a strong increase of interest in psychology in that country, especially with regard to educational reform, guidance and social work.

The meeting concluded with a visit to historical landmarks, an evening with artistic presentations and an excursion on the last day.

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¹ Translated, edited and condensed by H. L. Ansbacher, University of Vermont.

NOTE ON PUBLICATION OF CIRCULATION FIGURES FOR PROFESSIONAL JOURNALS

It is considered unethical, and indeed poor business, for newspapers to conceal their circulation figures. This is because advertisers have a right to know how many prospective readers will probably be reached if space is bought in a particular newspaper.

There is a similar ethical reason for professional journals to publish their circulation figures. Authors, in deciding to which journal to send a given contribution, would be aided by knowledge as to the probable size of the scientific and professional audience that would be reached by a particular journal. Of course, size of circulation is only one criterion of suitability in choosing a publishing medium since the kind of readership most appropriate for a given type of contribution is usually far more important. Other things being equal, however, published circulation figures would be a useful guide especially if journals similar in content and quality showed striking differences in their circulation figures. Journals refusing to publish such figures would, of course, become suspect.

The publication of circulation figures by professional journals is accepted practice in the field of medicine as illustrated by *The Journal of the A. M. A.* and *The New England Medical Journal*. Thus, precedent exists.

The idea behind this plea for the publication of circulation figures occurred to the writer when he accidentally discovered that a specialized professional journal in which he had published a specialized type of contribution had a circulation of only a few hundred whereas the number of professional workers supposedly reached by this journal runs into the thousands.

The present note is merely a "trial balloon" to determine whether a considerable number of psychologists believe that professional journals in psychology and allied fields should publish their circulation figures. Perhaps the publications of the American Psychological Association should take the lead.

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CIRCULATION FIGURES FOR APA JOURNALS

The circulation figures for APA journals used to be printed regularly as part of the annual report of the Business Manager of Publications. They were always a year out of date when published. And furthermore, no such detailed report has been published since 1945. I am, therefore, glad to follow Professor Paterson's suggestion. Here are publication figures for 1947 for each of the journals published by the American Psychological Association. For the sake of comparison, figures are also given for the year 1943 for those journals which the APA was publishing in that year.—DAEL WOLFLE

Journal	Circulation	
	1943	1947
American Psychologist	—	6,130
Applied Psychology Monographs	—	1,528
Journal of Abnormal and Social Psychology	1,569	3,420
Journal of Applied Psychology	1,624	3,090
Journal of Comparative and Physiological Psychology	—	1,750
Journal of Consulting Psychology	—	2,420
Journal of Experimental Psychology	1,298	2,125
Psychological Abstracts	3,649	7,100
Psychological Bulletin	3,474	5,815
Psychological Monographs	1,550	1,680
Psychological Review	1,543	3,290

Across the Secretary's Desk

THE PLACE OF PSYCHOLOGY IN AN IDEAL UNIVERSITY¹

By all means read this book. It is the very excellent report of the University Commission to advise on the future of psychology at Harvard. But Harvard has no monopoly on the recommendations it makes or the future it sees for psychology. Those recommendations can be adopted by any university which wants to make its psychology department more productive and more useful than it now is. The first university to follow all the Commission's suggestions will have the best department of psychology in the country.

President Conant appointed the Commission early in 1945 because the proper place of psychology on the campus puzzled him as it must have puzzled many university presidents. Psychologists have been a vigorous, sometimes belligerent, but never well united group. Psychologists are employed in the School of Education, the School of Business, the Medical School, the counseling bureau, and sometimes elsewhere as well as in the department of psychology. This scattering of psychologists all over the campus is bound to be puzzling.

Where psychology belongs and what should be expected of it were the questions which President Conant posed to Alan Gregg, Director for the Medical Sciences of the Rockefeller Foundation and chairman of the commission, and his 11 commission colleagues: Chester I. Barnard, President and Director of the New Jersey Bell Telephone Company; Detlev W. Bronk, Director of the Johnson Foundation for Medical Physics at the University of Pennsylvania; Leonard Carmichael, president of Tufts College; John Dollard, Professor of Social Anthropology at Yale; Thomas M. French, associate director of the Institute for Psychoanalysis in Chicago; Ernest R. Hilgard, chairman of the department of psychology at Stanford University; Walter S. Hunter, chairman of the department of psychology at Brown University; Edward L. Thorndike, professor emeritus of psychology at Columbia University; L. L. Thurstone, professor of psychology at the University of Chicago; John C.

Whitehorn, professor of psychiatry and psychiatrist-in-chief at Johns Hopkins University; and Robert M. Yerkes, professor emeritus of psychology at Yale University.

Because these six psychologists and six non-psychologists found that "probably no American university possesses an adequately staffed department of psychology to cover the needs of undergraduate, pre-professional, and graduate students," they developed plans for a larger department of psychology, better housed, better staffed, better equipped, and able to offer better training and service than any psychology department now in existence.

The Commission spent two years in writing *The place of psychology in an ideal university*. In that time they came to pretty general agreement on most issues, but not on all. There are a number of signed footnotes indicating dissent or the wish for a changed emphasis on specific issues; Thurstone disagreed on this point, French on that, Hunter and Barnard on a third; sometimes two or more members jointly signed a minority statement. But on most issues, the Commission apparently agreed; on most points there are no dissenting footnotes. In no place, incidentally, was there final disagreement between the psychologists and the non-psychologists on the Commission. The agreement of this whole distinguished and varied group on what the department of psychology should be and do in an ideal university makes this report the most authoritative statement we have on what the university should expect of its psychology department. Psychologists will have to read the entire report; the following paragraphs are only a summary, with a few comments of my own. Every department head might as well order two copies right away, one for himself and one to present to the president of his university.

The Commission believes that a psychology department has four obligations: (1) It contributes to the general education of college students; (2) It provides a valuable adjunct in the preparation of students for work in education, law, medicine, the ministry, business administration, and engineering; (3) It trains students for academic research and teaching in psychology; and (4) It trains students for work in the applied fields of personnel work, educational and vocational guidance, clinical psychology, and psychotechnology generally.

¹A. Gregg, and others, *The place of psychology in an ideal university*. Cambridge: Harvard University Press, 1947. Pp. 42. \$1.50.

PSYCHOLOGY IN GENERAL EDUCATION

The introductory course is the only formal training that most students receive in psychology. It is in this course therefore that the department must make its primary contribution to general education. The introductory course should introduce the student to the subject matter of psychology by providing him with a number of systematic ideas, concrete facts, and general laws of behavior. But more important, it should develop in the student "the idea that the intellectual and emotional life and behavior of mankind (himself included) may profitably be studied in a dispassionate, orderly, and scientific manner." The Commission recommends an introductory course occupying from one-sixth to one-fourth of the student's time for one academic year. Two-thirds of this time can be spent in lectures and demonstrations; the rest should be spent in small conference or section meetings. It need not be a required course, but it must be a well-taught course. The Commission pleads for more attention to the teaching of elementary psychology and for greater recognition for the faculty member who is a devoted, skilled, and effective teacher.

There is a second way in which psychology can contribute to general education: it "should, and eventually will, supply a major part of the scientific foundation for the slowly evolving art of education. Dependable knowledge of the aptitudes and capacities of the pupil, and more important, his interests and enthusiasms, are incomparably more important for effective education of the individual from birth to maturity than are the so-called "subjects" now "taught" in our schools." "The major opportunity, then, for intelligent applications of psychological knowledge and skills appears in the diagnostic study, educative treatment, and vocational guidance of the presumptively normal individual." By applying its knowledge and skill to educational and counseling problems, the Commission believes that the psychology department can increase materially the effectiveness of the university's general education program.

PSYCHOLOGY IN PRE-PROFESSIONAL TRAINING

"We believe that some instruction in psychology may properly be given in the faculties of education, medicine, business administration, law, theology, and engineering; that such instruction should be given by men with sound training in psychology; and that investigative work related to the actual

problems posed by experience in these different fields should be conducted by those who are charged with this teaching."

The instructors responsible for these courses, the Commission believes, should have joint appointments; they should be part of and feel part of the department of psychology. At the same time they should be and feel part of the faculty of the professional school they serve. Only in this way can they keep in close touch with developments in psychology on the one hand and problems of the professional group they serve on the other.

The skepticism which professional schools have sometimes felt towards psychology is justified as long as the psychology department offers, for example, a course in industrial psychology taught by a psychologist whose knowledge of industry is wholly academic. The Commission condemns such courses, but with equal vigor it points out that a business man who knows no psychology is not the remedy for a psychologist who knows no business. The policy recommended, joint appointment, will mean selection of the teacher by both departments. It will keep him in continuous contact with both psychology and the professional school. And it will make the training of the professional school students more valuable.

PSYCHOLOGY FOR THE PSYCHOLOGIST

The department must also train psychologists. Prerequisites which the Commission lists for the advanced study of psychology are courses in physics, general biology, evolution and genetics, physiology (including a knowledge of the regulatory systems other than the nervous system), anthropology, sociology, and psychiatry. Somewhere along the line the young psychologist must learn to speak and write clear, concise, and effective English prose. "If psychologists are to extend their usefulness and influence they must be articulate." There is more support for this recommendation in Shartle's series of job descriptions (*AMER. PSYCHOLOGIST*, 1946, 1, 559-582) than anywhere else I know. In describing the duties of 28 psychological specialties, he included ability to write or speak effectively among the requirements of 17. If psychologists are to have these skills, we must make certain in the graduate schools or earlier that they develop their linguistic abilities.

The most controversial of all the Commission's recommendations comes at the point where the psychologist receives his final academic degree.

"We believe that an advanced and professional degree, the PsyD, should be given in the Department of Psychology under the Faculty of Arts and Sciences as a graduate degree for persons seeking training as practicing psychologists . . . Sharing much but differing from the PhD in psychology, which guarantees high ability and fitness to teach the subject, there should be created a three-year course of professional training for practicing psychologists. An intern year would eventually be required for the degree. Such a course would lead to the degree of PsyD. This degree should be given as a guarantee of a sound knowledge of the fundamentals of psychology and competence in one or more of the following 'applied' fields: educational, business, industrial, clinical and 'personality' psychology; and skill in the uses of the best available methods of interviewing, testing, analysis, and guidance."

A number of objections to the new degree are recognized: the Arts and Sciences faculty does not ordinarily give professional degrees; there is not enough content to justify two degrees in psychology; applied aspects of psychology can be learned better on the job than they can in the class room and laboratory; the degree may come to be considered inferior to the PhD with the result that it will be a refuge for those who fail to secure a PhD; the ablest students who anticipate careers in applied psychology will work for the PhD and will pick up additional knowledge of the applications of psychology however they can. These objections are recognized, but half of the members of the Commission agreed that they carried less weight than the arguments in favor of the creation of the new degree. "A PhD in physiology who wanted to practice medicine could doubtless pick up eventually much of what he would have gotten better in a medical school; the analogy is not close but it serves to convey an idea of the value of keeping quite clearly in mind the difference in purpose between a PhD degree in psychology as now awarded and the suggested degree of PsyD."

If the new degree is adopted, the Commission with no dissenting footnote decided, it should be awarded by the same faculty that awards the PhD; there should be no splitting into "pure" and "applied" faculties, departments, or schools. "Psychology faces first inner dissension and then secession and a long set of quarrels if theory and practice are not kept together in working harness."

Should the PsyD be awarded? Six members of the Commission thought so. Six were uncertain. Ten years ago we would have been more certain of the answer: practically all of us would have opposed it. But now the degree is an actuality: the University of Montreal has been awarding it for several years; other universities are considering it. And, with or without a special degree, special curricula for students of applied psychology are being taught in many of our graduate schools.

I believe that the present effort to develop specialized graduate training programs for clinical psychologists (*AMER. PSYCHOLOGIST*, 1947, 2, 539-558) ought to be examined very critically in light of the arguments for a single curriculum and degree presented by the Harvard Commission. Money from the Veterans Administration and the United States Public Health Service has persuaded us to establish special graduate programs for future clinical psychologists. That development has the support of the more medically-minded members of the psychological profession. It has the endorsement of our allies in psychiatry. But, I suspect, it may be for the benefit of the psychiatrists and the medically-minded psychologists and not for the benefit of psychology as a whole. If we set up a special program for clinical psychologists should we also establish special graduate programs for industrial psychologists, school psychologists, counseling and guidance psychologists, and perhaps for other psychological specialists? The Commission thinks not:

"Just as the MD degree designates a person who is competent on graduation as a practitioner, and yet there are no special university degrees for pediatricians, ophthalmologists, etc., so the PsyD would be an indication that its possessor has a sound training in the fundamental principles of psychological science, plus an appropriate experience in those applied fields in which he doubtless will proceed to obtain further experience and expertness."

Furthermore, the Commission believes, the major opportunity for applied psychology is not in the medical setting but "in the diagnostic study, educative treatment, and vocational guidance of the presumptively normal individual." Men of medical wisdom served on the Harvard Commission; we ought to consider their report very carefully before we go too far in making our applied graduate training a specialized adjunct to psychiatry.

THE IDEAL DEPARTMENT

What kind of department of psychology will be able to serve all these purposes? The Commission outlines five points of policy which they consider axiomatic:

"opportunity and freedom for change and development must be provided; working contact between all the psychologists in the university should be created and maintained; the department should be large enough to contain, and by its spirit and resources interest and reward, a wide variety of psychologists; psychology already occupies and bids fair in increasing measure to hold a place in a larger number of professional schools than any other academic subject; the time is at hand for the creation of a course to prepare professional psychologists qualified to practice or apply psychological knowledge as psychotechnologists, clinical psychologists, personnel managers, or experts in vocational guidance."

Implementation of these axioms of policy requires that every psychologist in the university be attached to the department of psychology. He may hold a joint appointment in another department or school, but he cannot be separated entirely from the department of psychology. "If administrative arrangements make this difficult they should be changed." The department of psychology should encompass all phases of psychology, from physiological to social, from pure to applied. "The arguments for the separation of social psychology from the rest of psychology must be explained on other grounds than those of logic." Commenting on the separation of social and clinical psychology from the rest of psychology and their new location in the Department of Social Relations at Harvard, President Conant remarks in the Foreword: "Those familiar with Harvard and its tradition of dissent will not be altogether surprised and may even be amused that affairs should have taken this somewhat unusual turn."

In an ideal university the Department of Psychology should be large.

"As a conservative estimate, the staff . . . should number from twenty to twenty five, approximately half being of professorial rank, i.e., assistant professors or higher. The salary budget can be calculated in the light of prevailing academic salaries. Psychology needs the services of technicians, animal caretakers, laboratory maintenance as well as secretarial assistance, a nursery school and other school affiliation, library maintenance, and research funds . . .

"An adequate department would contain, besides teachers with the usual teaching and research responsibilities, some persons with psychological training but with service and supervisory responsibilities in connection with 'field work' in schools, hospitals, etc.

"The facilities for psychology in an ideal university would make the present laboratories, seminar rooms, scattered libraries, and inadequate instrumentation in our universities seem primitive indeed . . .

"In the ideal university there should be a specially designed building for instruction and research in the psychological sciences and their respective applied branches . . ."

Does the Commission's picture seem visionary? Remember that they are discussing the department of psychology in an ideal university. Not every school can afford such expansiveness either for psychology or any other department. But there will be departments that fit the Commission's description. Harvard, at least for the present, has chosen a different path and may not have one. But Chicago might, or California or Yale or a number of other universities that would like to consider themselves ideal universities. Psychology will have such departments. They will come partly because of the vision of the Harvard Commission, but mainly because of what the Commission saw and reported: the increasing importance and usefulness of the young and growing subject that is psychology.—

DAEL WOLFE



*Blackstone Studios
20 West 57th St., New York*

GEORGE K. BENNETT

President, the Psychological Corporation
President, Division of Industrial and Business Psychology
President, the New York State Psychological Association
Vice-Chairman, Division of Anthropology and Psychology, National Research Council

Psychological Notes and News

Alfred North Whitehead, professor emeritus of philosophy at Harvard University, died in Cambridge December 30, 1947. He was nearly 87 years of age.

Catherine J. Gage of Philadelphia, Pennsylvania, for five years a member of APA, died on September 10, 1945.

Ray Chard, clinical psychologist at the VA Hospital at Lyons, New Jersey, died at the age of 36 years.

C. C. Ross, long a member of the faculty of the University of Kentucky, died last April at the age of 55.

Martin Remp died on October 8, 1947. He had retired from the College of Wooster in 1944.

The American Board of Examiners in Professional Psychology met at Ohio State University on December 19, 20, and 21. A full account of this meeting will be presented at a later date. This present statement is designed to keep the Association informed of the Board's general progress. Prior to this meeting, each member of the Board had reviewed the 439 applications submitted up to October 10. On the basis of this preliminary balloting and review, the credentials of the 189 cases on whom the preliminary balloting had shown the closest agreement were reviewed in exhaustive detail.

The Board voted to award its diplomas to 102 of these candidates, to make further study of an additional 87, and to complete its study of the remaining 250 at its next physical meeting in February.

Since the first deadline of October 10, an additional 228 applications have been received and are being circulated to the Board for preliminary balloting prior to the next physical meeting. Names of the candidates to whom the Board has voted to award its diplomas will be announced by personal letter and by an early bulletin.

At the same time, the Board has outlined the areas of knowledge over which it proposes to examine candidates and, after review by interested divisions

of the Association, these areas of examination will also be announced.

Any applicant may address inquiries concerning the status of his application now before the Board to the Secretary-Treasurer, John G. Darley, Psychology Building, University of Minnesota, Minneapolis 14, Minnesota.

The Board will shortly invite those candidates whose BA was earned after 1935 and who hold the PhD to submit their applications. This constitutes the group of cases for whom examinations are mandatory according to the Board's By-Laws.

The training of instructors of psychology is the purpose of a new program announced by the Department of Psychology of Northwestern University. The program will be supervised by **Claude E. Buxton**. Four graduate-assistant instructorships, providing full tuition and a stipend of \$1600, will be instituted with the beginning of the 1948 summer session. Applicants should hold the MA or its equivalent.

During the summer session each trainee will register for a course on teaching methods and problems, a brief course on classroom speech and voice problems, and a teaching practicum. The practicum will require that he teach a small section of elementary psychology, including preparation of examinations, demonstrations, and methods of counseling students. Supervision and constructive criticism will be given by the staff member in charge of the course and by others on the staff.

No other course registrations will be possible during the summer quarter, but during the three subsequent academic quarters the full quota of courses allowed graduate assistants (10 quarter hours) may be taken. During these quarters fewer hours of practicum credit will be given, and the trainee may elect courses in his area of specialization in psychology. If he has earlier demonstrated his proficiency, he will be given responsibility for regular sections of the elementary course in psychology. His work will be supervised and his classes visited until this seems no longer necessary.

Each trainee in this program will be given additional opportunities during the final year of his PhD, if his work has been satisfactory, to gain ex-

perience in other teaching situations on the Evanston and Chicago campuses. Persons wishing to apply should write the Department of Psychology at Northwestern.

The organization of an Illinois Psychological Association that will represent all psychological interests in the state was the purpose of a discussion on November 21 by twenty-eight Illinois psychologists. At the end of the meeting a continuation committee consisting of **Agnes Sharp**, chairman, **George Speer**, and **Mary Rynerson** was asked to summarize the discussion and prepare recommendations.

The continuation committee is at work and has appointed several additional committees to work on specific problems of the new state association. The committee is using the *News Letter* of the Illinois Association for Applied Psychology as a medium for reporting its activities and plans to the psychologists of Illinois. Anyone interested who does not already receive the *News Letter* may do so upon payment of the mailing charge of \$1.00 a year to the treasurer of the IAAP, Dr. Julian Pathman, Illinois Neuropsychiatric Institute, Chicago, Illinois.

The New York State Psychological Association held its first meeting at Syracuse University on January 31, 1948. George K. Bennett was elected president. The New York State Psychological Association is the new name of the New York State Association of Applied Psychologists. It corresponds better with the new constitution, recently adopted by the members, which makes the association representative of all psychological interests within the state.

The importance of psychology, anthropology, and sociology for the future welfare of our nation was the theme of **James B. Conant's** presidential address on December 27, 1947 to the American Association for the Advancement of Science. His title was "The Role of Science in Our Unique Society."

Dr. Conant's theme, in part, was that these sciences need not be ashamed of making value judgments. He pointed out that all the medical sciences are devoted to the value judgment that life is better than death. "Much more than the Hippocratic oath is involved; only in a society where life is considered preferable to death and

where health is glorified would funds flow freely for the study of disease."

He made the proposal that psychology, anthropology, and sociology accept the value judgments which make our country unique, namely, the ideals of equality, of a minimum of class distinction, and of a maximum of individual freedom. Naturally, he stated, these are ideals, and in practice may not be realized perfectly; such a fact does not make us hypocrites in subscribing to them as ideals.

"Would not all of us be happy if we felt certain that a decade hence the United States would be appreciably nearer those historic goals? So it seems to me. Therefore, the set of social ideals corresponding to these goals might form the basis of agreement among the scientists in question. All concerned with medical science, however objective and neutral they may claim to be, are urged forward with a desire to improve the public health and a firm conviction they will do so. Likewise, the scientist concerned with human relations and the structure of society must have conviction as to the practical objectives of the practitioners in his field and a belief in the possibility of accomplishing at least some of the objectives they have in mind."

"These types of work seem full of promise. The point of view of the younger men in these fields indicates that the time is now at hand when rapid advances will be forthcoming, and from these advances will flow practical consequences of great value to this nation."

"But it is the future which is exciting, for even the most enthusiastic psychologist... would readily admit that at the present moment the conceptual schemes at his disposal are the equivalent of what chemists and physicists had in the late 18th Century."

The complete address appears in *Science* for January 23, 1948. Psychologists will find it of great interest.

Travel to the Twelfth International Congress of Psychology. It is possible that help may be secured either through the State Department or the British Foreign Office for those who wish to attend the Twelfth International Congress of Psychology but who have difficulty in making reservations. Plans are not yet complete and it is useless at the present time to write for assistance to either office. However, those having difficulty in securing passage may write to the APA office. If plans materialize

for assistance through either government office, that information will be sent to those who request it.

The price of one-way and round-trip fares from New York to Prestwick, Scotland on the British Overseas Airway Corporation planes was printed incorrectly in the September issue of this journal. The correct fares are \$305 one way and \$550.70 round trip.

An all-expense tour for psychologists is being planned by the World Study Tours of Columbia University Travel Service, New York 27, New York. The party will sail about June 20, visiting psychological centers in Paris, Geneva, Zurich, and Prague before the International Congress opens on July 23. A week of vacationing among the Norwegian fjords will be provided between the end of the Congress of Psychology and the opening of the International Congress on Mental Health in London on August 11. The group will return to New York about September 1. The party will be led by Richard Crutchfield of Swarthmore College. All expenses will come to about \$1150. Registrations for the trip may be sent either to Dr. Crutchfield or to World Study Tours.

Plans for a special trip by airplane at somewhat reduced fares have been made by Robert W. Burnham. It is estimated that the cost, including regularly scheduled round-trip American Overseas Airlines transportation, Congress fee, all meals, lodging, necessary land transportation, etc., will be less than \$800 a person. The exact cost will depend upon the number making the trip. Cost will be held down by using hostel accommodations wherever possible, except in London, and by the regular discounts for group travel. The group will leave New York on July 20. After the Congress there will be a week of sightseeing through Scotland and England and three or four days in London. Anyone wishing to can remain in London for the International Congress on Mental Health; plane reservations can be made for return on any date so long as the request is made early. Plane seats have been reserved for 38 people. These seats will be allotted on a first-come-first-served basis, and it is still possible to reserve more seats. All persons who desire to travel with this group should write Dr. Robert W. Burnham, Color Control Department, Eastman Kodak Co., Kodak Park Works, Rochester 4, New York.

The Committee on Standards for Psychological Service Centers has broadened the scope of its inquiry in order to include all psychological services. This change follows the plan recommended by the Board of Directors at the Detroit meeting. The returns will be used by the committee in setting standards for inclusion in a Directory of Psychological Services.

All members, whether Fellows or Associates, will shortly receive postcard notices, with which they may request a copy of the Psychological Services Questionnaire. Those who returned Part 4 of the Yearbook Questionnaire should disregard this postcard. All others who are in charge of psychological services, whether in a "center", as a member of a "team", or working independently, should fill out the postcard.

Graduate fellowships, scholarships, and assistantships, not listed in the table printed on pages 20 to 29 of the January, 1948 American Psychologist, are described in the following paragraphs. As in the table, "ex" means "and exemption from tuition"; "nr" means "non-resident".

University of California, Berkeley, California. Term begins middle of September. Apply for admission to Dean of the Graduate Division. Tuition: resident, \$27.50; nr, \$150 per year. A few scholarships; apply by Feb. 20 to Dean of the Graduate Division. Three half-time research assistantships and 30 half-time teaching assistantships at \$900 a year. Apply by April 1 to R. C. Tryon, Chairman, Department of Psychology.

Clark University, Worcester, Massachusetts. Term begins September 20. Apply for admission by March 15 to Professor Vernon Jones. Tuition: \$400 a year. Six scholarships at \$600 a year and two fellowships at \$700 a year. Apply by March 15 to Vernon Jones, Chairman, Department of Psychology. Applicants should send transcript and results of Graduate Record Examination.

Colgate University, Hamilton, New York. Term begins in September. Apply for admission by August 1 to Chairman, Committee on Graduate Study. Tuition: \$500 a year. Six assistantships for counseling freshmen and one teaching assistantship; 15 hours work per week; stipend \$1200. Apply by July 1 to Dr. T. S. Lawson, Chairman, Committee on Graduate Study.

University of Delaware, Newark, Delaware. Term begins about Sept. 20. Apply for admission by

April 1 to Chairman, Dept. of Psychology. Two teaching assistantships; approximately 20 hours work per week; stipend \$900 ex. Apply by April 1 to Dr. H. M. MacPhee, Chairman, Dept. of Psychology.

George Washington University, Washington 6, D. C. Term begins September 22. Apply for admission to Director of Admissions. Tuition: \$360 a year. Scholarship stipends vary; apply to Scholarship Committee. One assistantship for MA candidate; 9 hours work per week; stipend \$300. One teaching assistantship for PhD candidate; 9 hours work per week; stipend \$600 ex. Apply to Prof. Thelma Hunt, Executive Officer, Dept. of Psychology.

Ft. Hays Kansas State College, Ft. Hays, Kansas. Term begins Sept. 1. Apply for admission by April 1 to Prof. H. B. Reed. Tuition: resident, \$94; nr, \$148 a year. Two scholarships; 12 to 16 hours work a week; stipend \$528. Apply by April 1 to Prof. H. B. Reed, Chairman, Dept. of Psychology.

Louisiana State University, Baton Rouge, La. Term begins Sept. 16. Apply for admission by June 1 to Dean of Graduate School. Tuition: resident, none; nr, \$120. Four to six fellowships; 9 to 15 hours per week; stipend \$360-\$720. Apply before June 1 to Prof. P. T. Teska, Chairman, Dept. of Psychology.

University of Maine, Orono, Maine. Term begins about Sept. 15. Apply for admission by May 1 to Dean Edward N. Brush, Dean of Graduate Studies. Tuition: resident, \$175; nr, \$300 a year. One scholarship providing tuition: apply by May 1 to Dean Brush. Some teaching assistantships; \$800 per year for 9 hours work a week and \$1600 a year for 18 hours work a week. Apply by June 1 to Prof. A. Douglas Glanville, Chairman, Dept. of Psychology.

University of Miami, Miami, Florida. Term begins in October. Apply for admission by June 15 to Dr. L. B. Slater. Tuition: \$22.50 a credit hour. Five scholarships; 15 hours work per week; stipend \$400. Five assistantships; 15 hours work per week; stipend \$750 ex. Apply by June 15 to Prof. L. B. Slater, Chairman, Dept. of Psychology.

Michigan State College, East Lansing, Michigan. Term begins Sept. 15. Apply for admission to Dean, Graduate School. Tuition: resident, \$141; nr, \$366 a year. Scholarships, some specifically reserved for foreign students, with variable stipends ex; 20 fellowships for foreign students at \$300 ex a

year; 3 fellowships at \$800 ex to \$1000 ex a year. Apply to Dean, Graduate School. Seven research and teaching assistantships; 20 hours work a week; stipend \$800 ex to \$1000 ex. Apply to Prof. Harold H. Anderson, Chairman, Dept. of Psychology.

University of Missouri, Columbia, Missouri. Term begins Sept. 10. Apply for admission by March 1 to Registrar. No tuition. One or more scholarships of \$350 a year. One or more fellowship of \$650 a year. Seven teaching assistantships; 20 hours work a week; stipend \$700 to \$800. Apply by March 1 to Prof. Fred McKinney, Chairman, Dept. of Psychology.

Montana State University, Missoula, Montana. Term begins Sept. 20. Apply for admission by April to Dr. W. P. Clark, Dean of the Graduate School. Tuition: \$60 a year. One laboratory and teaching assistantship; 12 hours work a week; stipend \$700 ex nr tuition. Apply to Prof. E. A. Atkinson, Chairman, Dept. of Psychology.

University of Nebraska, Dept. of Educational Psychology and Measurements, Lincoln 8, Nebraska. (Dept. of Psychology's data were published in previous table.) Term begins Sept. 9. Apply for admission by March 1 to Dean of Graduate College. Tuition: resident, \$150; nr, \$300. One or two research assistantships; stipend \$300-\$600 ex. Three teaching assistantships; stipend \$400-\$1000 ex. Apply by March 1 to Dean of Graduate School. Two part-time instructorships; stipend \$1000. Apply to Prof. D. A. Worcester, Chairman, Dept. of Educational Psychology and Measurements.

University of New Hampshire, Durham, New Hampshire. Term begins Sept. 20. Apply for admission by May 1 to Prof. H. A. Carroll. Tuition: resident, \$160; nr, \$360 a year. Three research assistantships; 22 hours work a week; stipend \$800 ex a year. Apply by May 1 to Prof. H. A. Carroll, Chairman, Dept. of Psychology.

University of New Mexico, Albuquerque, New Mexico. Term begins about Sept. 15. Apply for admission to Director of Admissions. Tuition: resident, \$136; nr, \$336 a year. Tuition scholarships and fellowships of \$400 to \$600 ex nr tuition. Apply to Dean of Graduate School. Four graduate assistantships; 15 to 20 hours work a week; stipend \$800 ex nr tuition. Apply to Prof. A. B. Shaklee, Chairman, Dept. of Psychology.

University of Oklahoma, Norman, Oklahoma. Term begins Sept. 13. Apply for admission by

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By John J. B. Morgan

This widely used, standard text for college courses in mental hygiene, presents in clear, untechnical language, the essential principles of sound mental health. The approach is unbiased and objective and the content of the book is based on the point of view that mental health is dependent in large part on the formation and practice of correct and sound mental habits. 404 pages. \$3.00

CREATIVE AND MENTAL GROWTH

By Viktor Lowenfeld

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EDUCATIONAL PSYCHOLOGY

By Gates and Others

This book presents with authoritativeness and completeness the wealth of assistance the psychologist is able to give the educator—understanding of child development and of learning processes; methods of guiding and stimulating learning and development; analysis and measurement of intelligence, aptitudes and abilities or disabilities; standards and safeguards of mental health. 805 pages. \$3.75

THE MACMILLAN COMPANY New York 11

Clinic, University of Hawaii, P. O. Box 18, Honolulu 10, T. H.

Clinical Psychologist, Minnesota. The Youth Service Commission of the State of Minnesota wishes to employ a clinical psychologist of suitable training and experience to direct the diagnostic and treatment service for delinquent youth assigned to the Commission for study. A non-competitive examination under Minnesota Civil Service may be arranged. The salary is "somewhat in excess of five thousand dollars". Qualified persons should write A. Whittier Day, Director, Youth Conservation Commission, State Office Building, St. Paul 1, Minnesota.

Clinical Psychologist, Washington State. The State of Washington has a vacancy for a Chief Clinical Psychologist in the mental hygiene clinic of the health department. The clinic is in Seattle under the full-time direction of a psychiatrist; two psychologists are on the staff. Emphasis is given to work with children or young people through college age. Applicants must have an MA and three years of professional experience in a psychiatric clinic, of which one year must have been in a supervisory capacity. The salary range is from \$3600–\$4320. Further information and application forms are available from the State Dept. of Health, 1209 Smith Tower, Seattle 4, Washington.

Clinical Psychologist, Pennsylvania. The Tri-County Child Guidance Center in Harrisburg, Pennsylvania announces a vacancy for a staff psychologist, oriented in clinical work with children, and experienced in examining babies. For information write to Mrs. Lorna Sylvester, Executive Director, Tri-County Child Guidance Center, 820 North Third Street, Harrisburg.

Research Psychologist, New York. The Saranac Lake Study and Craft Guild, a pioneer rehabilitation organization, is seeking a qualified psychologist to develop a basic research project on the psychological factors involved in the rehabilitation of the tuberculous. The director of this project will survey the material available, define the problem, and administer the program on its acceptance. Information relative to this opportunity may be obtained from William F. Stearns, Guild House, 100 Main Street, Saranac Lake, New York.

THE AMERICAN PSYCHOLOGIST

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FIFTY-SIXTH ANNUAL MEETING OF THE AMERICAN PSYCHOLOGICAL ASSOCIATION

BOSTON, MASSACHUSETTS, SEPTEMBER 7, 8, 9, 10, 11, 1948

PRELIMINARY ANNOUNCEMENT

TIME: Tuesday, September 7, morning; to Saturday, September 11, noon.

HEADQUARTERS AND REGISTRATION: Hotel Statler, Park Square.

HOTEL RESERVATIONS: Below appears a list of hotels in the Boston area which have agreed to reserve rooms for members of the APA. The Convention Bureau of the Boston Chamber of Commerce will handle all room reservations. Write to the

Housing Bureau, Convention Bureau, Boston Chamber of Commerce, 80 Federal Street, Boston 10, Massachusetts, indicating:

- (1) your 1st, 2nd, and 3rd choices of hotel
- (2) the kind of room you want
- (3) when you expect to arrive
- (4) when you expect to leave
- (5) the name or names of the person or persons who will share the room with you. (It will be neces-

(Hotel addresses are for reference. Do not write directly to hotels, but to Housing Bureau, Convention Bureau, Boston Chamber of Commerce.)

HOTEL	ADDRESS	PHONE	ROOMS	MINIMUM RATES				
			RESERVED	Single	Double	Twin	Suites (3-4 persons)	
Within 7 Minutes' Walk of Statler								
Broadway	315 Tremont	HAncock 6-4300	12	2.50	3.50	4.00		
Bradford	275 Tremont	HAncock 6-1400	100	4.00	6.00	6.50		
Vendome	160 Commonwealth Ave	COmmonwealth 6-4700	10		5.50	6.50		
Copley Square	47 Huntington Ave	KEEnmore 6-9000	40	3.00	6.00	7.00	10.00	
Statler	Park Square	HAncock 6-2000	500	4.00	6.50	7.25	14.95	
Lenox	Exeter St	KEEnmore 6-5300	25	3.00	4.50	7.50	10.00	
Touraine	62 Boylston	HAncock 6-3500	65	4.00	6.00	7.50	14.00	
Within 20 Minutes' Walk of Statler, or 10 Minutes by Subway								
Hemenway	91 Westland Ave	KEEnmore 6-4330	20	3.00	4.40			
Bostonian	1138 Boylston	KEEnmore 6-2673	40		5.00	5.00		
Minerva	214 Huntington	KEEnmore 6-6380	12	3.00	4.00	5.00	5.00	
Braemore	464 Commonwealth Ave	KEEnmore 6-4600	30			6.60	9.90	
Somerset	400 Commonwealth Ave	KEEnmore 6-2700	30			7.00	10.00	
Puritan	390 Commonwealth Ave	KEEnmore 6-1480	9	4.40	6.60	9.90	13.20	
Within 25 Minutes' Walk of Statler, or 15 Minutes by Subway								
Manger	North Station	CAPitol 7-2600	75	3.85	5.00	5.50		
Myles Standish	30 Bay State Road	COmmonwealth 6-4500	15	3.85	5.50	6.50	6.50	
Sheraton	91 Bay State Road	KEEnmore 6-2960	20		7.00	7.00		
In Cambridge, across Common from Harvard; 25 Minutes by Subway from Statler								
Continental	25 Garden	KIRkland 7-6100	15		6.60	7.00		

sary to assign two people to most twin-bed rooms. Selecting your own roommate in advance is recommended. If you cannot do that, tell the Housing Bureau whether or not they have your permission to assign another member to share the room with you if that becomes necessary in order to accommodate all attending the meeting.)

You will be notified by mail of the reservation made for you. In order that the Local Committee may have a continuous check on reservations it is particularly important that members should (1) mention the APA (there are to be other conventions in Boston), and (2) correspond only with the Housing Bureau, not with the hotels.

DEADLINES: Depending somewhat on the type of accommodation desired, practical assurance of receiving first-choice assignments may be given if reservations are made *before June 1*. No guarantees whatever are possible after *August 1*. In the early weeks of September Boston hotels are crowded with tourists.

SPECIAL EVENTS: Members desiring to arrange for special events, such as group luncheons and dinners, are invited to communicate with A. Bertrand Warren, Department of Psychology, Northeastern University, Huntington Avenue, Boston 15, Massachusetts.

DEADLINES: May 3 (completed arrangements), if announcement is to appear in the printed program; September 1, if the assistance of the Local Committee is desired.

COMMITTEE ON LOCAL ARRANGEMENTS: Members are requested to communicate directly with the following members of the Committee on Local Arrangements concerning matters as indicated:

Exhibits: EDWIN B. NEWMAN, *Psycho-Acoustic Laboratories, Harvard University, Cambridge 38, Massachusetts*. Facilities are available at standard rates for commercial exhibitors who desire space at the Hotel Statler. The Local Committee wishes also to encourage non-commercial exhibits, concerning which it will entertain all proposals directed to Dr. Newman.

Information on Recreation and Entertainment: J. GARTON NEEDHAM, *Simmons College, The Fenway, Boston, Massachusetts*. At the convention, the Local Committee will provide descriptive material on points of interest in the Boston area and New England region, on local colleges and universities, and on entertainment and recreational facilities.

Public Information: MASON HAIRE, *Massachusetts Institute of Technology, Cambridge, Massachusetts*. Press publicity and intra-convention news. The Local Committee will publish a *bulletin* during the week of the convention.

Local Transportation: REV. JAMES F. MOYNIHAN, S.J., *Boston College, Chestnut Hill, Massachusetts*

Headquarters Facilities and Registration Procedure: JOHN L. KENNEDY, *Department of Psychology, Tufts College, Medford, Massachusetts*

Hall Scheduling: EDITH B. MALLORY, *Department of Psychology, Wellesley College, Wellesley, Massachusetts*

General Coordination (including matters not otherwise covered): IRVING C. WHITTEMORE, Chairman, *College of Business Administration, Boston University, 685 Commonwealth Avenue, Boston 15, Massachusetts*

CALL FOR PAPERS

FIFTY-SIXTH ANNUAL MEETING OF THE AMERICAN PSYCHOLOGICAL ASSOCIATION

The Convention Program Committee

GEORGE A. KELLY, *Chairman*, IRVIN L. CHILD, STANLEY G. ESTES, DONALD B. LINDSLEY, IRVING C. WHITTEMORE, ERNEST R. HILGARD, *ex officio*

THE Convention Program Committee of the American Psychological Association presents this announcement of program plans and the Call for Papers. No other Call for Papers will be distributed. There will be no mailing to the individual members as was the custom until 1947. The complete program will be published in the July AMERICAN PSYCHOLOGIST.

I. COMMENTS ON THE DETROIT MEETINGS

Comments on the Detroit meetings indicate that the APA has made progress adjusting to its postwar girth but that some radical innovations must be tried before the adjustment can be made comfortable. The crux of the problem seems to lie in the increased diversity of interests and functions to which the program must be adjusted. Furthermore, the interdivisional interest patterns seem to vary widely. For example, in some groups clinical psychology and personality appear to be closely related subjects, among others clinical psychology seems to be more closely related to testing and test construction, while in the eyes of a third group clinical psychology is primarily one of the applied areas of physiological psychology. This patterning of interests makes it difficult to schedule sessions which will not appear, to some people at least, competitive.

The principal suggestions for improvement which have been received fall into the following categories.

1. Further avoidance of competitive sessions.
2. Further staggering of divisional business meetings.
3. Retention of the "specific technical problem" type of symposia. (There were 23 symposia scheduled in Detroit.)
4. Further reduction in the number of individual research reports. (There were 192 of these scheduled.)

5. Elimination of more of the "poor" individual reports.
6. Withdrawal of the ban on lantern slides.
7. Publication of the program one month earlier.
8. Improvement of speech intelligibility through use of public address systems.
9. More rigid adherence to the time schedule on the part of the chairmen.

II. TYPES OF SESSIONS COMPRISING THE 1948 MEETING

The following types of sessions will be scheduled:

A. Papers by Popular Request. This is a 1948 innovation! All members and affiliates of the APA are asked to write immediately to George A. Kelly, Department of Psychology, Ohio State University, Columbus 10, Ohio, and reply to the following questions:

1. If you go to the Boston meetings next September, what psychologists would you most like to hear and on what topics would you like to hear them read papers?
2. In your opinion what is the most significant psychological publication (article or book) which has come to your attention in the past twelve months and whom (in addition to the author) would you like to hear discuss it?

If the response to this request justifies the step the Program Committee will try out a number of "Popular Request Sessions" based on the results of this inquiry.

B. Individual Reports of Research. This is the traditional type of APA session. Four twelve-minute papers will be scheduled for each one-hour session. Individual members who wish to participate must submit an abstract of their paper to the appropriate division secretary before May 3. See below the regulations for abstracts.

C. Technical Problem Symposia. The symposia presented at the Detroit meetings were widely ap-

proved. It will be remembered that emphasis was placed upon specific technical problems rather than upon broad topics. The APA divisions are invited to propose and organize suitable two-hour symposia on technical problems.

Inter-division symposia are especially encouraged. Last year the symposium prepared jointly by the Psychometric Society and the Division of Clinical and Abnormal Psychology was enthusiastically received. See below the regulations for symposia.

D. Addresses. There will be addresses by the APA president and by division presidents. Public addresses will be given by eminent speakers in related fields.

E. Exhibits.

F. Business Meetings. These have become increasingly important as psychology takes on some of the problems of a profession. All groups desiring business meetings of divisions, boards, or councils should make their needs known to the Chairman of the Program Committee. The deadline for the receipt of such communications in Columbus is May 17. Hotel rooms must be reserved early or they are unobtainable.

G. Film Programs. Research and instructional films and film strips will be scheduled in special sessions.

H. Special Meetings. Alumni groups and others who may desire special meetings should make their requests in time to meet the May 17 deadline in the office of the Program Chairman.

III. REGULATIONS FOR INDIVIDUAL REPORTS

The following rules govern the consideration of abstracts of individual reports to be included in the program.

A. Who May Read Papers

1. By action of the Association, abstracts may be accepted only from members (fellows and associates). Multiple authorship will be permitted only (a) in case all authors belong to the Association or (b) in case the paper is read by one author who is a member, and the other author is a trained and qualified investigator in an allied experimental science as shown by his holding membership in the national scientific society in his own field. Otherwise, acknowledgment of aid by a non-member may be made in the abstract itself.

2. Papers may not be presented by proxy. Each abstract will carry the signature of the author who guarantees to present the paper.

3. By vote of the Association, papers previously read at sectional meetings are not acceptable for the Convention program, but this action does not preclude acceptance of a paper presenting additional experimental results on a topic concerning which preliminary report has been made at a sectional meeting.

4. Each member is limited to one abstract except in instances where joint authorship exists, when he is limited to presenting one paper on the program. His name may, however, appear as the co-author of another paper presented by another member.

B. Form of Abstracts

1. Abstracts will be typed on one side only, double spaced, and in triplicate on 8½" x 11" white paper. Copy the following form in typing your abstract. It is similar to last year's printed one, and the abstract should resemble last year's.

TITLE OF PAPER:.....

AUTHOR(S).....

If this paper is accepted and placed on the program, I promise to appear in person and deliver it unless prevented by conditions beyond my control.

Signed:.....

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PROBLEM:

POPULATION:

PROCEDURE:

RESULTS:

CONCLUSIONS:

SIZE OF SLIDES OR FILM STRIPS, IF ANY:

This form is not intended to preclude case studies, theoretical papers, surveys, descriptions of new tests or techniques, or other suitable papers. Where these can appropriately be abstracted in terms of the outline given above, doing so will facilitate the task of rating abstracts. If the nature of the paper makes the outline inappropriate, it can be disregarded.

2. The abstract must contain not more than 300 words and the reading time of the report must not exceed 12 minutes.

3. Abstracts must not include tables or drawings.

C. Where to Send Abstracts—Deadline

1. An abstract must be sent to one of the Division Secretaries whose name appears on the inside front cover. Do not send abstracts to the Secretary of the APA or to the APA Program Committee. Select the division which best represents the area of interest covered by the paper.

2. One need not be a member of the particular

division to which he sends his abstract as long as he is a fellow or associate of the APA.

3. The deadline for receipt of abstracts by Division Secretaries is May 3.

IV. REGULATIONS FOR SYMPOSIA

The following rules govern the consideration of symposia to be included in the program.

A. *Initiation.* With the exception of Popular Request Sessions organized by the APA Program Committee, all symposia are to be organized by the Divisions.

B. *Technical Problems Only.* In view of the experience of last year, symposia will be considered appropriate only if the topic is sufficiently technical to insure a progressive movement of ideas during the session. Inter-division symposia are especially desirable.

C. *Deadlines.* The deadline for the receipt by the APA Program Committee Chairman of completed symposia programs, including both topics and names of participants, is May 17.

V. REGULATIONS FOR FILMS AND SLIDES

Facilities will be available for 16 mm sound and silent motion pictures and for 16 mm and 35 mm film strips. Members desiring to present films or film strips should send them to C. R. Carpenter, Department of Psychology, State College, Pennsylvania. The APA Audio-Visual Aids Committee, of which Dr. Carpenter is chairman, will select the films to be shown and will schedule their presentation.

The deadline for the receipt of films the titles of which are to appear in the printed program is May 3.

Films received after this date, but before August 1, will be considered for showing but will not be announced by title in the printed program.

VI. DEADLINES

The deadline for the receipt of all program materials from individuals is May 3.

The deadline for the receipt of all program materials from divisions is May 17.

THE DEVELOPMENT OF A CODE OF ETHICAL STANDARDS FOR PSYCHOLOGY¹

NICHOLAS HOBBS

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INTRODUCTION

IN THE past two decades, psychologists have steadily broadened their professional interests and activities. Formerly they were concerned with academic instruction and research. What problems of ethical practice there were could be fairly adequately settled on the basis of various existing codes for the guidance of teachers and professors, for the safeguarding of laboratory animals, and the like. But today, psychologists are engaged in such an impressive range of activities that existing codes of ethics are quite inadequate. Clinical service in institutions, in government agencies, in clinics and schools, in private practice; consultation service to international and national agencies, to foundations, to schools and colleges, to business, and to other special groups; and research on such problems as the selection of personnel, the design of industrial and military equipment, and the reduction of inter-group tensions; these, and other, activities take the psychologist into situations which frequently demand decisions of an ethical nature. The individual psychologist often finds himself in need of guidance when such decisions have to be made. He feels personally the need for a code of ethics.

Psychologists as a group have also undergone considerable transition during these decades, and particularly in recent years. There is among psychologists a growing sense of professional unity and of professional esteem. Psychologists as a group feel the need for a formulation of standards for professional practice to encourage highest endeavor of members of the group, to ensure public

welfare, to promote sound relationships with allied professions, to reduce intra-group misunderstandings, to promote professional standing of the group as a whole. There is a group need, as well as an individual need, for a code of ethics.

In recognition of these needs, the President of the APA in 1947 appointed a Committee on Ethical Standards for Psychology,² with instructions to report its recommendations to the Association. This memorandum is prepared by a member of that committee.

EXPERIENCE OF OTHER GROUPS

Psychologists are not alone in feeling the need for the guidance that a formalized statement of professional principles can give. Hundreds of business and professional codes have been drawn up. The Principles of Medical Ethics of the American Medical Association, adopted in 1912, is perhaps the best known. There are numerous codes in the educational field. There are also codes for such sundry groups as the American Institute of Architects, the Chamber of Commerce of the United States, the American Society of Newspaper Editors, the American Institute of Accountants, the National Funeral Directors Association, and the National Peanut Butter Manufacturers Association.

After a study of several hundred of these codes, Landis (3) reports that they are of four types: "(1) the code which is a collection of specific rules of conduct . . . ; (2) one which is a collection of two kinds of articles—specific rules of conduct and general principles which set no standard . . . ; (3) one which is a collection solely of principles which set no standards . . . ; (4) one which consists of general principles, constantly applied to particular situations by the rulings of a practice committee. . . ." Landis concluded: "It appears . . . that the most effective control has been attained in a highly integrated

¹ This article and the two following it are the first in a series of discussions of ethical problems which I have requested. The need for a formal code of ethics has grown to the point where a committee to draft such a code has been appointed. Eventually that committee will submit a proposed statement of ethical principles for discussion by the APA members. In the meantime, this series of articles is printed to focus attention on some of the specific ethical problems that arise in the profession of psychology in its various branches. DAEL WOLFLE

² The committee is composed of Edward C. Tolman (chairman), John C. Flanagan, Edwin E. Ghiselli, Nicholas Hobbs, Helen Sargent, and Lloyd N. Yepsen.

organization with developed mechanism of control, which has a code made up largely of specific rules. . . . Code making is thus far largely an attempt at setting up professional standards. It has not yet performed many important functions. Codes are still, to a great extent, even in the older organizations among lawyers and doctors, formulations of vague idealism, largely evidences of wishful thinking. The tasks of developing standards have not yet been approached with thoroughness and with regard for the factors that enter into group control" (pp. 92-93).

PREVIOUS WORK OF PSYCHOLOGISTS

In 1940, a Committee on Scientific and Professional Ethics reported to the Association that "to legislate a complete and rigid code would be premature at the present time" and recommended that a standing committee of the Association should be created to investigate unethical practices and "to formulate from time to time rules or principles of ethics for adoption by the Association." This Standing Committee was appointed and has since been active in the investigation of questionable practices. It has also received enquiries from individual psychologists seeking guidance in regard to acceptable practice in certain areas. In 1947, the committee reported, "In view of the rapid growth of professional psychology, the time is clearly ripe to formulate certain guiding principles. . . . The present unwritten code is tenuous, elusive, and unsatisfactory."

Several individuals have published articles which bear upon the problem of ethics in psychology. Bixbear and Seeman (1) have approached the most fundamental problem of values underlying a professional code: "A genuine and practical code of ethics, however, stems from a philosophy as well as a need. Ethics are principles of action based on a commonly accepted system of values, and agreement upon these principles and values must be reached before progress toward an acceptable code can be expected." Sutich (7) has outlined in impressive detail a code for consulting psychologists. But it is limited to problems arising out of the counselor-client relationship in psychotherapy and is written from a particular theoretical orientation which other psychologists may not find acceptable. The difficulty of formulating an acceptable code, that is more than an expression of generous impulses with which all must

agree, is demonstrated by Sargent's (6) article in which Sutich's principles are discussed.

Individuals and groups working on the problems of certification and licensing of psychologists have frequently made the point that a formalized code of ethical practice would be of ponderable significance in furthering acceptance of psychologists as a group with professional status.

Psychologists have on several instances recommended the *Principles of Medical Ethics* as a foundation for the construction of a code of ethics for psychologists. The writer feels that it would be a mistake to draw heavily from this code (even though it is considered to be one of the best). Only the clinical or consulting psychologist in private practice is likely to find in the medical code much that is germane to his problems. The majority of psychologists will find little that is applicable to his problems in the medical code. A much more inclusive code is needed.

We need not only a code that will make possible effective discipline of those engaged in malpractice but also, and more importantly, a code that will provide real guidance to the psychologist who is making an honest effort to practice his profession in the best ethical tradition. In a field so complex, where individual and social values are yet but ill defined, the desire to play fairly needs to be given direction and consistency by some rules of the game. These rules should do much more than help the unethical psychologist keep out of trouble; they should be of palpable aid to the ethical psychologist in making daily decisions.

METHODS OF DEVELOPING A CODE FOR PSYCHOLOGISTS

Given the task of preparing a set of standards for ethical practice in psychology, it would seem reasonable to study codes from other professional groups, to review the history of attempts to deal with ethical problems among psychologists, to give due thought to problems peculiar to psychology as a profession, and to sit down and write a series of statements embodying the best features of previous codes, cut and shaped and added to, in order to construct a sturdy set of principles for psychologists. This work should be contributed to by those members of the profession who are most mature, in wisdom, experience, and knowledge of their fellow psychologists, and the fruits of their labors should be submitted to their fellows for approval. This is

reasonable. This is what has been done, for the most part, by some 500 professional and business groups that have adopted codes.

I should like to argue, however, that this is not the most effective way to proceed to develop a code of ethics. Particularly is this not the way that could be commended to psychologists, nor is it one that is likely to fit easily into the psychologist's way of looking at such problems. Perhaps there is some confusion of purpose implied in the procedure outlined. If the purpose is to produce a series of statements that can be entitled, *A Code of Ethics for Psychologists*, printed, and distributed, then there can be no argument with the procedure, unless it is that too much bother is made to accumulate a variety of opinions. But creating a pamphlet with an imposing title is hardly our purpose. Our purpose, essentially, is to develop a technique which will be effective in modifying human behavior. This is an old and familiar task to psychologists, their very stock in trade, in fact. The only difference here is that human behavior means specifically the behavior of psychologists. Psychologists have long since abandoned an armchair approach to such problems; he "thinks out" and presents untested solutions to such urgent and critical situations only when there is no time to approach the problem with the attitudes and skills of a professional psychologist.

The point might be more forcefully made if we take another view of the problem. Suppose that the architects, or dentists, or doctors, were dissatisfied with their ethical code, and that they came to the American Psychological Association and said, "Look here, we think we need your help. We are stumped on this problem of a code of ethics. Oh, yes, we've got a code—made up by a committee a dozen or so years ago—but the darn thing doesn't work, at least so far as we can see. You memorize it to pass your final exams at school and that's about the end of it, except, of course, in some extreme instances when the code is rung in to handle a really disgraceful situation. But what we want is a code that will really pay off, that will be of real help to each one of us many times in his practice. Now you are psychologists; you are supposed to know something about human behavior. What would you recommend that we do to get us a code that produces the results we want? We'll retain you as consultants, and give you a free hand—at least up to the point of producing something for us to adopt or reject." If we were to do a good and

conscientious job for our supplicants, we would approach the problem following the principles of research that we have found to be so fruitful in many similar circumstances. We might well apply to our own problem the wisdom that we would sell to others.

There is yet another consideration which suggests that we should conceive a fresh approach to the development of a code of ethics. We do not want merely a code, however fine, but we want a code with which psychologists can identify, and we want, eventually, to see in operation among psychologists the highest standards of ethical practice. Keeping this ultimate goal in mind, we may well want to devote more attention to the *process* of developing a code than to the definition and refinement of the code itself. Our ends may best be served if there is widespread participation among psychologists in the process of working out the principles that we adopt. Certainly one of the most significant recent developments in psychology is the growing sensitivity to group processes in human behavior. If we conceive the problem of developing ethical standards as one of group dynamics, an approach more original than the committee-recommendation technique is indicated.

A RECOMMENDED RESEARCH APPROACH

If there is general acceptance of the thesis that we should use research techniques involving widespread participation, it may be profitable to proceed to outline somewhat more specifically how such research might be carried out, and what the role of the Committee on Ethical Standards for Psychology might be in the process. It is believed that the Committee should think of itself as a research steering group which would guide the work of one or more individuals who would agree to be responsible for the research as a contribution to the profession. Thinking in such terms, and in anticipation of the plans to be suggested below, the matters of time and money come up. The research approach would consume considerably more time than the committee-recommendation approach; one might estimate a period of from two to three years to arrive at a formulation of standards. However, it is important to keep in mind that the research approach would have the great advantage of getting psychologists to thinking immediately about the matter of ethical standards. There would presumably be immediate and increasing returns on the investment of effort,

and possibly even greater returns (in terms of improved professional practice) than would accrue from a patly published code to which psychologists in general had made little personal contribution. The Committee should estimate the cost of the research project and submit its estimate to the membership of the Association to determine whether there is agreement that the outcomes of the research are likely to be worth the cost. Certainly the research approach will cost more money than the committee-recommendation approach. Psychologists should have an opportunity to judge the soundness of the investment.

The research plan would involve a sequence of steps on the part of the Committee, the individuals responsible for the research, and the members of the Association. The Committee would first draw up a statement of objectives or criteria to be used in planning the process of setting up and getting into effective use the proposed ethical code. These criteria should be submitted to the membership of the Association for their suggestions and final approval. A research design should then be worked out and approved by the Committee, along with a budget and an operating plan. The research itself would involve the collection, from psychologists engaged in all of the various professional activities, of descriptions of actual situations which required ethical decisions, the descriptions to be accompanied by a statement of the decision actually made and the author's judgment as to the ethical soundness of the decision. These descriptions, of which there should be hundreds, would be collated and classified. Critical issues would be identified in this process. The issues would then be formulated into general statements, and illustrated by pertinent incidents reported. The various proposed solutions to the critical situations would be set forth in such format as would facilitate their consideration. The statements, illustrations, and proposed solutions should be printed and distributed either to all members of the Association or to a large representative sample of the membership. Participants would be asked to study the issues and assign weights to the proposed solutions on the basis of a judgment of the ethical soundness of the proposals. On the basis of an analysis of these judgments, a final draft of the code should be drawn up and submitted to the membership of the Association for adoption. The code might desirably be drawn up in two versions: one a succinct statement of the principles, which would

probably make up a document of about a dozen pages; and the other a statement of these principles followed by illustrations and a discussion of the relative desirability of various decisions and practices in specific situations, which would make up, in total, a volume that might be thought of as a handbook on ethics in professional psychology.

CRITERIA FOR DEVELOPING A CODE

Below are suggested a number of criteria or objectives proposed to guide the development and application of the code of ethics. It is recommended that the Committee make its first and major concern a consideration of these objectives with a view toward their possible revision by the Committee and their ultimate recommendation to the membership of the Association for approval. It is believed that the adoption of clearly stated objectives is absolutely necessary as a first step in the development of a code, whether or not the research plan outlined above is adopted.

1. The code should be an expression of best ethical practice in the field of psychology as judged by a large representative sample of members of the American Psychological Association.
2. The code should be an outgrowth of intensive research directed toward the defining of best ethical practice. It should be an empirically developed code, and not simply an expression of the opinions on ethical practice of a segment of psychologists.
3. The code should reflect explicitly value systems as well as denote current practice in specific situations. The underlying philosophical assumptions concerning the nature of man and of society should be clearly stated with reference to particular ethical decisions.
4. There should be the widest possible participation among psychologists in the development of the code. A general finding in other professions is that codes are relatively ineffective in influencing behavior. Effectiveness may come from widespread identification among psychologists with the provisions of the code.
5. The code should be formulated in specific terms. Generalities, grand exhortations to virtuous behavior, and the like should be avoided. The user of the code should be able to draw from it effective help in solving problems involving ethical decisions.
6. The code should fully cover all important situations and relationships encountered in the work of the psychologist, such as the relationship of the psy-

chologist to a client, to other psychologists, to psychiatrists, to medical doctors, to social workers, to teachers and school administrators, to lawyers, to courts and institutions, and to the general public.

7. The code should meet the needs of individuals working in the various areas of psychology. Problems of general interest to all psychologists should be supplemented by a consideration of problems of special concern to the psychologist as teacher, as research worker, as psychodiagnostician, as psychotherapist, as school psychologist, as consultant to business, industry, and government.

8. The code should be so formulated as to be enlightening to individuals or groups seeking a more thorough understanding of the work of psychologists, such as members of allied professions, business men, government administrators, journalists, members of legislative bodies, and the general public.

9. The code should assist the individual psychologist in clarifying the relationship between personal and professional standards of conduct. This does not mean that the code should be concerned with matters of personal morals but rather with matters of personal and professional ethics where some overlapping or ambiguity exists.

10. The code should be written in simple, dignified language, composed to achieve maximum clarity. It should be organized and presented in a format which would encourage its use.

11. There should be provision made for the revision of the code by simple methods. The method should ensure the achievement of all of the objectives here outlined for the development of the code.

12. The code should be adopted, item by item, by the members of the Association, following the procedures already established for determining the will of the majority.

13. The adoption of the code should be followed by a carefully planned educational program, the responsibility for which would be shared by individual psychologists, by the Association through its central office, by regional associations, and by universities

and institutions concerned with the development of psychology.

14. Provision should be made in the articles of adoption of the code for the continuous collection of case materials illustrative of the code or indicative of need for revision of or addition to the code.

15. Provision should be made in the articles of adoption of the code for the investigation of violations of the code, and for the instruction or discipline of violators.

16. Provision should be made for continuing research to evaluate the effectiveness of the code of ethics developed, even if this research must be limited to a periodic survey of attitudes concerning the usefulness of the code.

IN CONCLUSION

The procedure outlined would require a great deal of thought, effort, and time away from other activities. It is believed that it would result in promoting high standards of ethical practice in psychology with a degree of effectiveness not likely to be achieved or even approached by a less exacting procedure. It should result in a code of ethics truly indigenous to psychology, a code that could be lived.

REFERENCES

1. BIXLER, R. AND SEEMAN, J. Suggestions for a code of ethics for consulting psychologists. *J. abnorm. soc. Psychol.*, 1946, **41**, 486-490.
2. HEERMANCE, E. L. *Codes of Ethics, A Handbook*. Burlington, Vt. Free Press Printing Co. 1924. Pp. 525.
3. LANDIS, E. L. *Professional Codes, a Sociological Analysis to Determine Applications to the Educational Profession*. Contributions to Education, No. 267. Teachers College, Columbia University, New York. 1927. Pp. 108.
4. MUIR, H. W. *Final Report of the Committee on Ethics of the Profession*. N.E.A. Proceedings, 1929, 179-190.
5. "Principles of medical ethics" (American Medical Association), *J. clin. Psychol.*, 1945, **1**, 336-342.
6. SARGENT, H. Professional ethics and the problems of therapy. *J. abnorm. soc. Psychol.*, 1945, **40**, 47-60.
7. SUTICH, A. Toward a professional code of ethics for psychological consultants. *J. abnorm. soc. Psychol.*, 1944, **39**, 329-350.

PROFESSIONAL ETHICS IN INSTITUTION PRACTICE

FLORENTINE HACKBUSCH

Bureau of Mental Health, Pennsylvania Department of Welfare

THAT we should be discussing ethics for institutional psychologists implies that psychologists have gained sufficiently in the development of their profession to make some regulation of professional relationships desirable. The clinical psychologist, like any member of a profession, has certain obligations—to himself, to his profession, to his employer, and, primarily, to his client. There is no hard and fast line defining these fields, for they all serve the same purpose—the greatest good of the client which implies also the greatest good for society. Indeed, the movement for certification in any trade or profession has generally been based on a recognition of a need to protect the client. One may question whether professional ethics in institutional psychology are different from those in other areas in which clinical psychologists may be employed but it seems to me that the mere existence of the institution creates one difficulty in the relationship with the client seldom encountered in other situations.

A clinical psychologist has an obligation to give to his client as high a degree of professional service as possible. This involves not only a broad graduate training in psychology and related subjects, in specific skills and techniques, but experience, sensitivity, and a mature, well-integrated personality. Centers that give training in this field of psychology have a responsibility that, up to this point, few of them have recognized, if we may judge from the type of applicants, who, every year, write us about positions. Fresh out of college, with some undergraduate courses in psychology and a little experience in giving a Stanford-Binet or a performance test, or even a Wechsler-Bellevue, they wish positions working with problem children or delinquents, who are so interesting, or in state institutions, when they have nothing more to contribute to the understanding of the client than an I.Q. and a blown-up account of the test results.

The training centers (and some of them are highly regarded in the psychological field) have not impressed on the young student the tremendous responsibility involved in influencing the lives of

other people. Perhaps some of them have recognized their own limitations in applying for institutional jobs, for the inmates are already in the institutions, they are there certainly through no judgment of the would-be "psychologist", and he may even do some good as, for instance, when he finds on re-testing that an inmate in an institution for mental defectives is functioning at a level higher than would warrant legally his continued detention in that type of institution.

Many applicants for positions in psychiatric institutions are interested because they have problems of their own and hope to get an understanding of them. Some apply because they are the type of person who likes the security of an institution. These persons should be screened out and helped or directed to other occupational fields by the training center.

With the advent of projective techniques and the increased recognition of the value of the contribution the use of such techniques can make to the understanding of the client, clinical psychologists, in institutions or otherwise, have an added responsibility. Some of them have not been willing to make the sacrifice of time and money involved in thorough training in this field, so will tell you, for instance, that they have read Klopfer, or Beck, or, with great pride, both of them; they may even have added Rapaport to the list, and are now using the Rorschach! Some persons, psychometrically otherwise well-trained, have not the sensitivity nor the background of understanding of the dynamics of behavior to use projective techniques in any but a statistical manner. In either instance, unwarranted and frequently harmful judgments may be pronounced on the client, and remember, in an institution, the client is not free to seek another clinic.

The growth of psychology as a profession and the increased recognition of the value of status in the profession for job-survival, if for nothing else, has emphasized the necessity for membership in professional organizations; its importance no longer needs to be stressed as much as formerly. Attendance at professional meetings, state and national, is

obligatory on the institution psychologist, if he is to know his profession, to feel his part in it, to be flexible in his thinking, and to keep up with what is new in the profession.

An institution psychologist who is active in his profession creates increased respect for psychology among other institution groups. This is important for we may as well admit that psychologists have frequently not been given the rank their professional skill deserved. I read the annual reports from institutions for defectives from several states. The number of "psychological" tests is often reported, yet nowhere is the psychologist mentioned as a staff member. At one institution of which I know, the psychologist is not allowed at staff meetings though the head teacher is. Of course, no psychologist remains there more than a year and some have not stayed that long, but they have done nothing, in the meantime, to raise the standing of the position. One psychologist found, after accepting a position in a state hospital, that she was responsible to the chief of the social service department and that she was classified as part of that service. Time off for attendance at annual meetings is frequently not considered important for the institution psychologist, if one may judge from the relatively few seen at such meetings, both state and national, but it would be unheard of not to make provision for every physician possible.

All this leads up to the point that the psychologist in the institution, who is interested in the continuance of a high type of service to the client, has an obligation to the profession and to his fellow members in the profession. The demand for well-trained psychologists is at present much greater than the supply, whatever the reason for the demand (whether the value of the service is really recognized or whether the institution feels it must have the name of employing such a person, as a night club needs a name band) and some of these situations have of necessity changed. However, there is need for improved personnel practices in the employment of institution psychologists,—not merely civil service requirements, but good personnel practices.

At hand there is an announcement of a position as chief psychologist in a guidance institute. It not only states the qualifications required of the psychologist and the salary, but gives a detailed statement of the work he is to do, his position on the staff, information about vacations, sick leave, and attendance at professional conferences. There is also a description of the cultural and recreational

advantages in the locality. The director and board of the institute obviously recognize the psychologist's need to continue advancing in his profession and his need for outside contacts.

It seems to me that we need such professional standards in the field of institution psychology, especially in regard to duties, regular increments in salary, position on the staff, attendance at professional meetings, and opportunities for professional growth. A dissatisfied psychologist may always resign, it is true, but then the situation is seldom improved for the next incumbent. If there is a good statement of personnel practices and they are violated, we ought confidently to expect, as is the case in the American Association of Social Workers, that there will be some procedure set up in the American Psychological Association to investigate and report complaints of violations.

While some private institutions employ psychologists, on the whole positions in institutional psychology are generally thought of as governmental functions. Institutions, private or public, that most frequently have psychological services are of the following types:

- Hospitals for the mentally ill, often with outpatient clinic service
- Colonies for epileptics
- Schools for mental defectives
- Correctional institutions
- Training schools for juvenile delinquents
- Schools for the physically handicapped—the deaf, the blind, the crippled
- Children's homes

In each instance, the institution as employer is an important factor as it provides the framework within which the psychologist must operate. The authority of the institution must be upheld and respected at the same time that the welfare of the client is advanced. These two things are not always compatible.

In one institution of which I know, the workers have a favorite remark to the effect that the routine of the institution is the first consideration, then the comfort of the staff, and only last the welfare of the patients. One can imagine the feelings of a psychologist in that institution when he has been trained to consider the welfare of the patients the sole reason for a smoothly running institution and a satisfied staff.

Within the institution, psychological services must be dignified if they are to be respected. The psychologist should insist on adequate quarters

and ample time for the studies which he considers necessary to obtain a true picture of the client. Many institutional heads, or staff physicians and psychiatrists, are not well informed on current developments in psychology and wish from the psychologist "only an I.Q." Since we all know that the I.Q. alone seldom does justice to the client, yet that the judgment on the client is bound to be biased by the reported I.Q., it seems to me that an ethical institution psychologist should stand his ground in demanding the privilege of doing his work in the way in which he thinks it should be done for the best interests of the client.

If one needs an I.Q. for census cards, or for the so-called classification, those two banes of the psychologist in institutions, that need not be the end-all of psychological study and it is not always as difficult to change the attitude of a superior staff member as a timid psychologist may think. I mention this because the lack of understanding of what the psychologist has to offer and of the time required for an adequate study seems to be one of the chief complaints of the institution psychologist in regard to his relations with staff members of other professions. Of the same psychiatrist, one staff psychologist said, "He doesn't want anything but an I.Q. from me, so that is all I do," while another remarked, "I asked him what test he wished me to give and he said I should use whatever I thought was necessary."

For best results, the psychologist should have it as a well-established procedure that an adequate case history and medical study will be available for the correct interpretation of his findings. Generally the report of the psychological findings should be withheld until the necessary data has been obtained, for psychologists, even with projective techniques, are not seers.

The psychologist should avoid invading the medical field. It is not his province to make a medical or neuropsychiatric diagnosis, and the medical man has just cause for complaint if this is done. A psychologist may say, for instance, "This child reads as if he might have a defect of vision", and describe his behavior and hope that the statement in staff conference will be correctly interpreted as a need for further investigation in that field, even though the superficial routine physical examination of the institution has revealed no difficulty; but he certainly should *not* say, "This child needs glasses." He may say with propriety that the Wechsler-Bellevue and the Rorschach have the signs frequently found in organic patients, but he is certainly sticking his neck out (and deserves to have his head cut off!) if he says, "This is a case of organic brain disease."

In all of the institutions mentioned except the mental hospitals, the psychologist is frequently the person who knows the most about the dynamics of behavior and the causes of maladjustment. He will see many times in the management of the inmates treatment that outrages every professional instinct, and causes a violent conflict in his loyalties. This is especially true in the field of punishment, which can be psychologically unsound or dangerous ("solitary"), humiliating (shorn heads and long dresses for runaways), or downright brutal. The psychologist may often feel that if he remains and works quietly, he may develop greater understanding on the part of the institution personnel and improved attitudes. He cannot remain and be a subversive factor, however, and when the time comes that, in order to preserve his own self-respect, he can no longer be loyal to the institution, good ethical practice dictates that he should resign, stating his reasons honestly, and carry on his campaign for improvement outside the institution.

THE ETHICS OF TEXTBOOK WRITING

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THE ethical principles which a writer of textbooks should observe might be regarded as obvious if it were not for the fact that writers occasionally fail to observe these principles. Even the most obvious plagiarism sometimes occurs and it is well known that a member of the APA, after a thorough investigation by the Committee on Professional Ethics, was dropped from the Association for copying, almost word for word, long passages from the works of other writers and, without any recognition of his sources, presenting the work as his own. Thus, even though they may appear obvious, the principles of ethics that one should follow might well be formulated for the guidance of those who write textbooks.

One should perhaps never write a book unless he feels that it fills some need of colleagues, students or the general public. There is no place for *just another book* of the same kind that others have written. Before undertaking to write a book on a subject previously dealt with in textbook form, the writer should feel that he can do a better job than others have done, that a different systematic treatment is worthwhile, that a fresher approach is necessary, or that a more up-to-date treatment is called for. The principle that one should contribute something new rather than just another book will probably not be covered by any formal code. Such a principle, although it should be kept in mind, is difficult to apply anyway. The person who writes a textbook is the sole judge of whether *he* feels that he is doing something not done before. Furthermore, if his textbook is just another of the same kind as those which already exist, the negative response, or lack of response to the book, will probably be sufficient to discourage further efforts along similar lines. Certainly neither prestige nor financial reward could be gained unless the book filled a need and was therefore accepted by colleagues or others. Thus the writing of a hackneyed textbook is a useless undertaking whether or not it infringes on principles of professional ethics.

Many textbooks appear under multiple authorship. When there is more than one author there

should be clear recognition of the contributions which the different authors have made. It usually happens that some mutually agreeable form of credit is arranged by the parties concerned. But there are perhaps some instances where joint authorship is forced upon the writer of a textbook by an academic superior, who may have encouraged him to write the book and who may even have given it the advantages of his criticism. If the author rebuffs his superior it may injure his chances of advancement. But if the ethical code covers this sort of contingency the coercion may never be attempted, and if it is attempted, the writer can refer to the code as the basis of refusal to comply with the request for joint authorship. Nobody should appear as an author unless he has actually written all or part of the text. Encouragement and criticism may be appropriately recognized in the preface.

Anybody who writes a book, wholly or in part, should be recognized as the author or one of the authors of a book. This statement is important because there have been cases where psychologists allegedly wrote or rewrote large parts of textbooks for a fee without receiving credit for joint authorship. Usually the ghost writer, who is more or less well paid for his work, has no complaint. But it is obviously unethical for any writer to receive credit for what somebody else has done. Whether our projected code should or can cover such a situation is at least an interesting question for discussion.

In keeping with the principle that the contributions of individuals should be recognized, I should also like to call attention to the fact that many government-sponsored publications have been written by individuals but published under the authorship of government agencies or committees. In one such instance a psychologist wrote certain material at the request of a committee, was paid for it out of committee funds, and was told at the outset that he would get no credit as author of the material. His agreement to carry out the assignment was motivated by patriotic and monetary incentives. The material was prepared, criticized by the committee, revised by the psychologist in the light of these

criticisms, and published under the authorship of the committee with a footnote acknowledgment that the psychologist in question had given *editorial* assistance. There was no breach of agreement here and the psychologist had no legitimate complaint. But the question is whether it is ethical for individuals and agencies or committees to enter into such agreements. Perhaps it is, perhaps it is not, but at least this is another issue which those who formulate our ethical code might wish to consider.

There are of course many instances in which several individuals, contributing to publications sponsored by committees, failed to receive individual recognition. I think that *Psychology for the Armed Services* might well serve as a pattern for ethical procedure in such projects. Better than anything I have seen, it exemplifies appropriate acknowledgment to many individuals of what they contributed to a joint enterprise.

The individual author of a textbook, or part of a textbook, has certain ethical obligations of which our projected code might take cognizance. These have to do with borrowed material and more specifically with the correct transcription of such material and the proper acknowledgment of its origins.

The author is under obligation to go as much as possible to original sources for material, one reason being that secondary sources are not always reliable. Another reason is that textbooks based upon secondary sources are usually too superficial to be of much use. Very frequently, they give naive readers a wrong impression of the original sources. Thus one textbook gave Hunter as the authority for the statement that the lower threshold for sound is about 20 cycles. A person who did not know better might get the impression that Hunter discovered this fact. Since it is a commonly acknowledged fact, and an outcome of everyday laboratory experience, no acknowledgment is necessary. But discussion of research or of facts which are not commonly acknowledged should not only be based on the original material but acknowledgment of original sources should also be made.

It is of course true that anybody who has had extensive experience in psychological work absorbs a great deal of fact and theory without remembering its specific origins. Take, for example, the statement that, as skill in the performance of a complex activity develops, the individual becomes decreasingly aware of the separate acts; or the statement that, under these circumstances, performance be-

comes increasingly automatic. Who first formulated such a statement? I can remember reading something like it in William James, but I feel sure that it was not originally formulated by James. In such instances of well-established fact or theory, there is probably no reason for giving any source. Any fact, idea, or theory of fairly recent origin should perhaps be acknowledged. It should certainly be acknowledged if it is new and novel and the writer is aware of its origin. But just where one passes from facts or ideas that are part of the public domain to those which require acknowledgment is a question that cannot be answered in any categorical fashion.

Quite apart from the ethical question, but worthy of note in this connection, is the problem of how many names and dates are going to appear in a text, and where. The beginning student should not have his textbook cluttered up with the names of individuals and the dates of their discoveries. The best plan, probably, is to follow the recent custom of putting sources at the end of a chapter or at the end of the book, calling attention to them by use of inconspicuous numbers at appropriate places in the text. In this way the sources are acknowledged, and may be traced by the interested reader, but the emphasis in the text proper is where it should be—on facts and ideas. The only exception to this rule should be names and dates of outstanding historical importance. Sometimes, of course, as in the case of the James-Lange theory, the name of the originator is necessarily involved in the discussion of ideas. In higher level textbooks or handbooks whose function is primarily to present and integrate research or theory, there is probably good reason to mention names in the body of the text. The more advanced reader may wish to have these names and even dates before him as he reads and attempts to evaluate what he reads. It is frustrating to him to have to search for them elsewhere in the book. When such books are used with less mature students, the instructor should, in my opinion, explain to the students why the references are there and make it clear that they will not be required to memorize names and dates.

After he has decided to write a book, at whatever level, and has settled to his satisfaction the issues considered so far in this paper, the author is still confronted with certain ethical problems pertaining to quotations and use of illustrations. Obviously the textbook writer must not copy any material

verbatim without giving his source somewhere in the book. Material so copied should appear in quotes, in smaller type than original material, or indented so that it is evident that the author is now using another's material. The name of the author of this quoted material should appear, as well as the title of the original book or article, the name of the publisher or journal, and the pages of the source from which the particular material is quoted. Before publication, moreover, permission to reproduce should be obtained from the publisher or the editor of a journal. In the case of quotations from journals owned by the American Psychological Association, permission should be requested from the Executive Secretary of the Association.

One should of course be sure that he is quoting an author accurately. This requires a careful word-by-word check of the quotation and the original material. When statements are quoted only in part, care should be taken to see that the author's meaning has not been distorted by the lifting of items out of their context. Whether the quotation is of words or of ideas, equal care should be exercised. To give an author credit for some distorted version of his ideas is irritating to him and to the reader who recognizes the error. An ethical code should, if possible, protect the author against those who misrepresent the outcome of his research, or his ideas, even though they may do so without intention to deceive. Although it is common enough in the popular press, such misrepresentation is probably rare in textbooks.

When material is paraphrased one should clearly indicate that it is paraphrased. Its source should be

indicated, as when it is quoted, but permission to paraphrase is usually not necessary. It would of course be a serious breach of ethics if material were paraphrased without proper recognition of its source or if it were paraphrased in such a manner as to misrepresent the facts or ideas presented by the original author.

What has been said about verbal material applies also to illustrations. No photograph or line drawing should be copied wholly or in part without obtaining permission from the publisher. The source of the illustration should be indicated under the reproduction or in the preface or some other suitable place. When permission to reproduce is requested of them, publishers of books usually specify the form of acknowledgment. When illustrations are modifications of those already published by another, the source should be acknowledged in some such form as "After Lashley" or "Redrawn from Lashley." Whether or not permission is needed may depend upon the amount of modification introduced. If a line drawing is a tracing of or is based directly on a published photograph, permission should certainly be requested.

Although some writers request permission of authors as well as publishers, this is not necessary. Authors are usually glad to have summaries of their work in textbooks. Their only objections come when their material is not appropriately acknowledged or when it is inadequately represented.

Although there are many problems involved in the writing of textbooks, those mentioned are the only ones which, in my opinion, seriously or directly involve the interests of other psychologists.

A PROPOSAL TOWARD A PSYCHOLOGICAL RESEARCH EXCHANGE

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PSYCHOLOGISTS have many reasons to congratulate themselves upon the development of their science during the last half-century. Improvement in equipment, advances in experimental and statistical methods, growth in number of laboratories and in the number and psychological training of practitioners, and gains in prestige among the sciences and professions—all these benefits bear witness to the industry of three generations of men who have striven to make psychology a science. There exist, however, good antidotes for any complacency engendered by a survey of our history; and, of these, surely one of the strongest is the question: what generalizations in psychology are *known* to apply to all human beings, or to the members of a wide range of species? And of equal effect is the query concerning any admittedly limited generalization: over just what range of situations and of individuals, human or infra-human, is this principle *known* to hold?

The embarrassment produced in psychologists by such questions is not unrelated to complaints frequently heard among them, especially under informal circumstances. It is a matter of common remark that rats at one laboratory do not run like those at another, as if they have somehow absorbed local psychological theory; that more experiments ought more often to be repeated; and that experiments which *are* repeated fail too frequently to lead to similar conclusions.¹

¹ An amusing instance of this last point is found in the alphabetical theory of the Zeigarnik effect. I do not know that this theory has achieved the dignity of print. However, ten or twelve of my colleagues in psychology will recall a 1941 conversation in the course of which it was discovered that all persons known to us who had repeated the Zeigarnik experiment had succeeded in confirming the original if their surnames fell in the latter half of the alphabet, but had failed otherwise. Since no exceptions were found in a total of, I believe, twelve or fifteen instances, the outcome was obviously significant at a high level of confidence. On these grounds, of course, Zeigarnik herself was the ideal person to succeed. (I should add

These causes of complaint represent altogether a distressing situation for a science as methodologically sophisticated as ours. Perhaps the ambivalent attitude toward their science still evident among psychologists, shown by assertions that its maturity has been attained commingled with apologies for its youthfulness, is due in good part to their having confidence in their methods and lack of confidence in their generalizations. In some cases development of method has itself had adverse effects upon breadth of research. A conspicuous example of this is the wide dissemination of knowledge of small sample theory, which, with all of its merits, has actually aggravated the situation. Experimenters' attention has become focused upon unbiased tests of the significance of differences between small samples, and there has too frequently resulted a certain negligence concerning the representativeness of these samples for the extensive populations to which they would like to generalize.

One simple and prevailing explanation for the woeful scarcity of generalizations of known broad scope lies in the geographical distribution of the individuals and groups which the psychologist must observe. If one is to generalize over wide ranges of human and animal classes, one must have these classes at hand to be studied. Now, while the chemist may have his materials transported to him, wherever their source may be, the same is true in psychology (and the other sciences of man and society) to the most limited extent. Laboratory rats can be shipped by boat or rail, and the psychologist, like the anthropologist, can sometimes travel to observe distant peoples; but for most psychologists and most problems this is at best of token value. It is not surprising, then, as Dr. Fiske recently wrote in this journal, that:

that, as is known to those familiar with the problem, work done since that time has thrown at least some light on the difficulties of repeating this experiment, though not on the alphabetical theory itself.)

Psychologists spend too much time and energy upon research yielding only suggestive results. Work is wasted on samples that are too small for anything but pilot studies and on local studies whose significance for the field is obscured by the indeterminate effect of local conditions. (1, p. 23)

A great need of the psychologist, then, is convenient and inexpensive access to large numbers of subjects varying in age, sex, race, species, physical and social environment, and innumerable psychological characteristics, as he desires. The present proposal is based upon the elementary fact that psychologists as a group have subjects and facilities available to them which, in number and variety, are far beyond the reach of any single psychologist. From this it seems to follow that by proper cooperation the power of each psychologist could be multiplied many times.

The type of cooperation I suggest is that of exchange. Why should not each of us offer to others some of what he has, if he can obtain a similar offer from them? Concretely, if I am willing to repeat or extend an experiment of yours, will you not be ready to do the same for me? Or, if I have aphasics, six-year-olds, or schizophrenics available for observation, why should I not study them for you in exchange for your observations on chimps, life-termers, or steel-mill foremen? The present article is an attempt to put this notion into a relatively specific form, in the hope of discovering what sentiment may exist in its favor, and what difficulties it might meet.

PROPOSAL

I propose that there be set up what we may call a Psychological Research Exchange, the purpose of which will be to provide an opportunity for interested persons to exchange with others their time and facilities for research. There appear to be four objectives for which this would be of value:

1. For attempts to confirm experimental results by exact repetition.
2. For gathering relatively small amounts of data from each of a number of different experimenters.
3. For extension of experiments to a greater number of values of the independent variables than may be feasible for the individual experimenter.
4. For collecting data from populations differing to any desired extent from the original population.

The machinery of the Exchange would consist of a list of requests for exchange which would be circulated periodically among the members of the Ex-

change at appropriate intervals. Membership would presumably involve subscription to this circulation, plus whatever criteria (such as membership in the APA) seemed desirable. Each request for exchange might give the following information:

1. The name, institutional or other affiliation, and academic or professional status of the individual desiring exchange.
2. The general psychological field within which the problem falls (perception, conditioning, motivation, test construction or validation, etc.).
3. Specifications of the desired samples (number of cases, age, sex, intelligence level, social and economic status, etc.).
4. Specifications of the general facilities required (room space, sound-proofing, current supply, general environment, etc.).
5. Specifications of the equipment and apparatus required. (In some instances this might include a statement of what equipment the original experimenter could provide to the exchange experimenters.)
6. Special skills required of the experimenter or observer.
7. Time required per subject, and overall estimate of time required for the experimenting.

In the simplest case, if an investigator believed that he could meet such a set of specifications, he would offer exchange with the original experimenter, sending him at the same time a similar set of specifications for his own experiment. If the first party wished to accept the exchange, the two experimenters would then proceed by exchanging complete instructions, statements of procedure, and details of their projects, so designed as to permit actual experimentation. No further participation by the central Exchange would then be necessary.

The following rules would seem desirable:

1. In turning over the data he had collected, every experimenter would certify that they had been obtained in accordance with the original specifications, and would state his willingness to have the data published with his name, as experimenter, attached. If he has acted as a supervisor, rather than as experimenter, he would need to accept such responsibility for the data as is already accepted by large numbers of senior authors in contemporary psychological research.
2. In any publication which came out of the work, the exchange experimenter would be mentioned by name and affiliation, as responsible for the data under

exchange arrangements. He would not, however, be given status as collaborator, unless special circumstances demanded this.

3. The running of preliminary subjects, not included in the final data, might be expected as a part of the original bargain.

4. Complete statements of procedure would never be published in the Exchange's circular.

5. Hypotheses would never be stated in the circular. The same might be true, in general, in the exchange of full procedures, at the experimenters' pleasure. This would help to combat the effects of laboratory atmosphere, although it is not supposed that exchange experimenters will usually fail to obtain any notion of the original hypotheses.

6. Any proposal offered for exchange should have been tried out by the original author to an extent sufficient to demonstrate its practicability, and to enable a fair estimate of the time required and the special difficulties confronted. In most cases it is presumed that a full run of a complete group of subjects would have been made.

Thus far, it has been assumed that exchange would be restricted to direct barter between pairs of experimenters. However, if this were to give way to indirect exchange of a fluid sort, a considerable centralization would become necessary, and some medium of exchange (such, perhaps, as experimental time) would have to be developed. It is also conceivable that the membership might prefer to conduct exchange always through the central medium, rather than by direct correspondence, in order to avoid over-numerous or over-persistent requests, and to avoid the small embarrassments of saying no without apology. This, too, would lead in the direction of an office of some size, with attendant financial problems. Such problems would not, however, arise unless the Exchange were already proving itself to be valuable enough to create large demands upon it, in which case the difficulties should not be insurmountable, and the profits of attempting it could be foreseen.

ADVANTAGES OF THE EXCHANGE

1. The testing of hypotheses over larger and more heterogeneous samples, and with more values of the independent variables, to provide broader bases for generalizations. This is the primary objective of the Exchange.

2. The testing of hypotheses by data from experimenters who are ignorant of, indifferent to, or even

perhaps antagonistic to, the original hypotheses. In this way the effects of laboratory atmosphere may be diminished or, at worst, brought clearly to light at an early moment in the history of the experiment.

3. The multiplication of the resources available to any psychologist with a research problem. It is conceivable that this very richness of opportunity might serve to nurture ideas which otherwise would die an early death because of their impracticability for the individual.

4. If the Exchange proved successful, it seems likely that its members would profit by their experiences with it in the directions of improved experimental designs, more precise and repeatable statements of procedure, and a tendency to standardize methods and equipment. Pleas for such standardization have been made (e.g., Melton, 2), with little apparent effect; and there is no danger of any *over-standardization* of this sort in the immediate future.

5. Participation in one another's experiments could scarcely fail to lead to cross-fertilization of ideas among the members of the Exchange, and to lessening of what Fiske (1) has called 'isolationism' in psychology. One might even hope for the development of genuine research cooperation, above and beyond exchange, as a result of the experience.

6. For cases in which long experience or a high degree of training and skill are not required, the repetition and extension of experiments by students under proper supervision might have advantages, both for the students and the science, over the frequent waste of effort on trivial or poorly formulated problems which now occurs in graduate training. By participating in a genuine research undertaking, the student might "get his hand in" experimentation, at a time when he is not yet ready to carry out a problem from the initial stages of formulation to its conclusion. The process of gathering data for actual publication should be more stimulating than the mere routine of laboratory exercises which have only pedagogical intent.

POSSIBLE OBJECTIONS AND HINDRANCES

1. It might be argued that we are too individualistic for the success of a scheme which depends upon cooperation—that everyone wants to do his own research. However, the participants will not be acting in pure altruism, since, whatever they do for the Exchange, they can expect to receive its equivalent. Similarly, any experimenter who fears that he may in the Exchange waste his time working on a trivial

problem may console himself with the advantage he gains from having an equal time spent by others on his own more significant research.

2. If it is contended that experimenters will not trust others to collect data for them, one would have to give a number of replies. First, the Exchange would be set up only if enough experimenters did not have this attitude; whether enough would exist is a question which only experience can answer. Second, one can take some hope from the fact that experimenters in large number already do trust others to collect data under certain circumstances, as can be seen from the numerous collaborations with colleagues and students. Third, a member of the Exchange would not be required to accept exchange with anyone whose competency for the work he doubted. Fourth, the experimenter who collected the data would in each case have public responsibility for these data, in any publications which came out of the work. Finally, while various forms of expertness are required for the carrying out of experiments, any results which depend upon an essentially incommunicable capacity of an experimenter must be regarded as artistic, rather than scientific, in nature.

3. One suggests with reluctance the danger of the misappropriation of a research idea which has been expressed through the medium of the Exchange. This possibility is diminished by the fact that the generally circulated requests for exchange are to be almost wholly in the form of statements of specifications, and that only in the case of actual offers of exchange would the experimental details be put with sufficient fullness for the purposes of other experimenters, ethical or unethical. Whoever wishes to take extreme precautions against whatever danger of this sort exists will either avoid the Exchange or seek it only after he has safeguarded his priority by the acceptance for publication of a sufficient segment of the experiment, performed by himself.

4. There is always the possibility that one member

of an exchange will fail, through good reasons or poor, to carry out his obligations to the other, or to do so within a reasonable time. Some losses of this sort are, no doubt, inevitable; and only experience with the Exchange can offer a basis for estimating their seriousness. Time limits for the carrying out of the work would presumably be agreed upon at the time the Exchange was set up. The writer believes that if the Exchange proved to be successful, means of coping with this problem could be developed.

In conclusion, it may be pointed out that nothing prevents the use of the kind of cooperation here suggested on a small scale among whatever persons found themselves mutually interested in it, although, for its greatest benefits to appear, a larger project would probably be needed. Nor is there any reason for limiting the functions of the Exchange to "experimental psychology," in the narrow sense, or, for that matter, to psychology alone. On the contrary, it should be open to any kind of problem which involves the attempt to discover facts by procedures which can be made public, and to any scientist who wishes to cooperate, regardless of his field. Finally, it goes without saying that the mere accretion of large numbers of subjects is in itself of no value. In research, nothing can be substituted for expertness, care, and imagination, and the Exchange would accelerate the progress of psychology only if its members exhibited these qualities.

The writer will be happy to receive suggestions and comments, favorable or unfavorable, from any members of the Association who find themselves interested in such a project.

REFERENCES

1. FISKE, D. W. Must psychologists be experimental isolationists? *Amer. Psychologist*, 1947, **2**, 23.
2. MELTON, A. W. The methodology of experimental studies of human learning and retention: I. The functions of a methodology and the available criteria for evaluating different experimental methods. *Psychol. Bull.*, 1936, **33**, 305-394.

AVAILABLE INTERNSHIPS IN PSYCHOLOGY

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THE following table is a first listing by the APA office of institutions offering internships in psychology. The table is not complete. We sent out 79 questionnaires, of which 42 were returned; 6 of these said they had no intern-training program. Possibly some well-known training institutions did not return the questionnaire because they had no vacancies at present. VA hospitals are not included.

Students of the proper qualifications should take the initiative in applying to the institution of their choice. Some vacancies exist at present and some will be open according to the dates in the table.

The table lists the institution, address, to whom to apply, the supervisor of psychological interns, the type or types of case handled by the institution, the number of psychiatrists, psychologists, and social workers on the staff, the stipend, whether maintenance is provided, the date appointment begins, the duration of the appointment, whether it can be extended, the possibility of academic credit being obtained, whether scholarships are available, age requirements of an applicant, his sex, the degree required, and experience demanded.

In listing the number on the staff, totals are dropped to the nearest full-time equivalent. Also, interns and auxiliary members were omitted if they were separately enumerated. Vacant staff positions were not counted.

A dollar sign in the column *Maintenance* means that maintenance can be obtained, but extra payment is demanded. The median amount deducted is \$350 a year. Supervisors estimating the money value of maintenance generally started around \$100 a month.

A plus sign after the degree indicates one of two types of extra requirements: either the institution strongly prefers a higher degree than the minimum

marked as acceptable, or else some specific course is mentioned as necessary, besides the degree itself. These courses in general are those that prospective AB or MA interns would choose as correct academic training for internships.

If two salaries are mentioned, the lowest degree acceptable for either is listed.

The majority of appointments have no definite starting date, and are for one year, with possibility of renewal. In general, either sex may apply. About half require the MA, the rest the BA; only one requires no degree. Age requirements are various; some institutions set a lower limit and some an upper. Almost none of them requires experience.

The following abbreviations were used:

Types of cases:

All—All types of psychological and psychiatric cases

Ep—Epileptic cases

M. Def—Mental deficiency

M. H.—Mental hygiene

Pr. C.—Problem children

P.—Psychotic, psychiatric

P-N—Psychoneurotic

N-P—Neuro-Psychiatric

V. G.—Vocational Guidance

Other abbreviations:

m—month

y—year

Ind—indefinite

n—none, no limit stated

?—not stated

E—either

P—possible

a—about, approximately

var—various

AVAILABLE INTERNSHIPS

NAME OF INSTITUTION	ADDRESS OF INSTITUTION	ADDRESS APPLICATIONS TO
1. Bellevue Psychiatric Hospital	400 E. 30th St, New York 16, N.Y.	S. Bernard Wortis
2. Univ. of Calif. Med. Sch.	Langley-Porter Clinic, San Francisco	Robert E. Harris
3. Child Center, Catholic Univ.	Washington, D.C.	M. Gertrude Reiman
4. The Children's Village	Dobbs Ferry, New York	Howard P. Kelsey
5. Cleveland State Hospital	Cleveland, Ohio	Blake Crider
6. Connecticut State Hospital	Middletown, Conn.	Edgar C. Yerbury
7. Delaware St. Hospital	Farnhurst, Delaware	M. A. Tarumianz
8. Des Moines Child Guidance Cen.	Des Moines 9, Iowa	Allan H. Frankle
9. Elgin State Hospital	Elgin, Illinois	Phyllis Wittman
10. Grasslands Hospital	Valhalla, New York	Director
11. The Guidance Center	1737 Prytania St, New Orleans 13, La.	Hazel Long
12. Illinois Children's Hosp-School	2551 N. Clark St, Chicago 14, Ill.	Ann Heilman
13. Institute for Juvenile Resch.	907 S. Wolcott Ave, Chicago 12, Ill.	Frances C. Perce
14. Institute of the Penn. Hospital	49 & Arch Sts, Philadelphia 39, Penn.	Edward M. Westburgh
15. Kings County Hospital	Albany Ave. & Winthrop St, Brooklyn 3	Solomon Machover
16. Lapeer St. Home & Trng. Sch.	Lapeer, Michigan	A. T. Rehn
17. Letchworth Village	Thiells, Rockland County, N.Y.	Supv. Psych. Interns
18. Lincoln St. School and Colony	861 S. State St, Lincoln, Ill.	William W. Fox
19. Lynchburg State Colony	Colony, Amherst County, Va.	D. L. Harrell, Jr.
20. Mansfield State Hosp. & Trng. Sch.	Mansfield Depot, Conn.	Neil A. Dayton
21. Manteno State Hospital	Manteno, Illinois	Alfred Paul Bay
22. Menninger Foundation	Topeka, Kansas	Robert C. Challman
23. Univ. of Minn, Univ. Hospitals	Minneapolis 14, Minn.	Paul E. Meehl
24. Neurological Institute	168th St. & Ft. Washington Ave, N.Y.C.	Louise R. Hewson
25. New Hampshire St. Hospital	105 Pleasant St, Concord, N.H.	A. I. Rabin
26. N.J. Dept. Inst. & Agencies	Trenton, New Jersey	L. N. Yepsen
27. New York Hosp-Westchester Div.	121 Westchester Ave, White Plains, N.Y.	James H. Wall
28. Norwich State Hospital	Drawer 508, Norwich, Conn.	Hermann O. Schmidt
29. Philadelphia St. Hospital	Philadelphia 14, Penn.	Eugene L. Sielke
30. Psychopathic Hosp, Univ. Iowa	Iowa City, Iowa	W. R. Miller
31. Southbury Training School	Southbury, Conn.	E. N. Roselle
32. Taunton State Hospital	Taunton, Mass.	Ralph M. Chambers
33. Wayne County Trng. School	Northville, Michigan	T. G. Hegge
34. Wichita Guidance Center	3422 E. Douglas Ave, Wichita 8, Kans.	Joseph E. Brewer
35. Worcester Child Guidance Clinic	21 Catherine St, Worcester, Mass.	Esther C. Whitman
36. Worcester St. Hospital	Worcester 1, Mass.	Eliot H. Rodnick

IN PSYCHOLOGY

SUPERVISOR OF INTERNS	TYPE OF CASE				STIPEND	MAINTENANCE	APPOINTMENT BEGINS	DURATION OF APPOINTMENT IN MONTHS			AGE RANGE	SEX	DEGREE REQUIRED	EXPERIENCE REQUIRED	
		NO. OF PSYCHIATRISTS	NO. OF PSYCHOLOGISTS	NO. OF SOCIAL WORKERS				POSSIBILITY OF EXTENSION OF APPOINTMENT	POSSIBILITY OF CREDIT	SCHOLARSHIPS AVAILABLE					
1. D. Wechsler	All	85	8	8	1860y	0	July 1	12	+	+	0	<40	E	MA	No
2. R. E. Harris	P	45	5	8	1200y	0	Ind.	12	+	+	0	20-30	E	BA+	No
3. M. G. Reiman	Pr.C,P-N	1	1	4	None ¹	0	Oct. 1	11	+	+	+	Ind.	E	MA	No
4. H. P. Kelsey	Pr.C.	1	1	8	None	+	Ind.	12	+	0	0	Ind.	E	BA	No
5. B. Crider	P	8	1	3	100m	+	Ind.	6-12	+	?	?	20-30	?	BA	No
6. J. D. Holzberg	P,P-N,Pr.C.	13	4	3	1380y	\$	Summer	12	+	0	0	Ind.	E	MA	No
7. J. Jastak	All	9	2	4	50-75m	+	Ind.	12	+	0	0	<30	E	MA	No
8. A. H. Frankle	Pr.C.	0	3	0	125m	0	Ind.	12	0	0	0	21 on	E	MA	No
9. P. Wittman	P	15	3	7	82-130m	\$	Quarterly	6-24	+	+	0	20-50	E	BA	No
10. Sr. Psychologist	P	3	2	2	40m	+	Ind.	12	+	0	?	22-35	F	BA	No
11. H. Long	Pr.C.	2	1	4	2000y	0	Fall	12	0	0	0	21-35	E	BA+	?
12. A. E. Heilman	Pr.C.	0	1	2	100m	0	Aug. 1	6	+	P	+	22-35	M	BA+	6
13. F. C. Perce	Pr.C.	6	9	15	65-145m	0	Feb. Aug.	6	+	0	0	?	E	MA	No
14. E. W. Westburgh	P,N,V.G.	25	5	1	None	+	June, Sept.	12	+	+	?	23-35	E	MA	6-9
15. S. Machover	All	20	11	14	1860y	0	Feb, Sept.	12	+	+	0	22-35	E	MA	No
16. C. G. Mitchell	M.Def.	2	3	8	195-220m	0	Ind.	12	+	+	0	20-30	E	BA+	No
17. B. Whittredge	M.Def.	11	3	5	1560y	\$	Ind.	12	P	+	VA	Ind.	E	MA	No
18. W. Sloan	M.Def.	3	5	4	82-100m	\$	Ind.	3-12	+	+	0	20-35	E	BA	No
19. J. N. Buck	M.Def,Ep,P	2	2	1	852-1226y	+	July, Sept.	12	+	+	0	21-40	E	BA	No
20. L. C. Gothberg	M.Def.	0	2	5	884y	+	Ind.	12	+	0	0	22-40	E	MA	?
21. M. Murphy	P	16	5	8	65-145m	\$	Ind.	3-12	+	+	0	18 on	E	N	No
22. W. Kass	N-P	33	13	11	100m	0	Ind.	24	+	0	0	21-35	E	BA	No
23. S. R. Hathaway	All	4	3	5	960m	0	Ind.	9-12	+	+	+	23-40	E	BA+	No
24. L. R. Hewson	N-P,Pr.C.	74	3	9	75m	0	Ind.	12	0	+	0	21-35	F	MA+	No
25. A. I. Rabin	P,P-N,M.H.	10	2	3	25m	+	Sept.	11	+	0	0	20-45	E	BA	No
26. L. N. Yepsen	All	?	16	?	a 100m	0	Ind.	12	+	+	?	Ind.	E	MA	No
27. E. I. Strongin	P	17	4	0	80m	+	Ind.	12	+	+	?	Ind.	F	MA	Var.
28. H. O. Schmidt	P	21	9	4	None	+	Ind.	12	+	+	+	22-35	E	MA	No
29. W. F. Eccher	P	17	1	6	2100-2900y	\$	Ind.	Ind.	+	0	0	21-30	E	BA	No
30. J. R. Knott	All	9	2	5	1200y	0	Ind.	12	0	+	0	22-30	M	MA	No ²
31. M. Cotzin	M.Def,Ep.	0	3	3	1200-1920y	\$	Ind.	12	+	+	0	20-30	E	BA	No
32. R. DiMeo	P	14	1	4	None	+	July 1	12	?	?	?	21-30	F	BA	No
33. T. G. Hegge	M.Def.	1	7	8	Ind.	?	Ind.	9-12	+	+	0	21-35	E	MA	No
34. J. E. Brewer	Pr.C.	0	4	1	150y	0	Ind.	12	+	+	0	Ind.	E	MA	No
35. E. C. Whitman	Pr.C.	3	3	3	None	+	Sept.	12	0	+	0	21-45	E	MA	No
36. E. H. Rodnick	P,P-N	15	6	5	None ³	+	July, Sept.	12	P	+	+ ³	22-40	E	MA	No

¹ Full scholarship is available with internship in lieu of salary and maintenance.² PhD candidates only.³ USPHS stipends available (\$1600-2000).

THE PROBLEM OF PRIOR PUBLICATION

EDITORIAL NOTE

WHEN an author submits a manuscript to the editor of an APA journal and has that article accepted, he may normally expect to see it appear some months later. Most journals have a publication lag of from 6 to 18 months, and normally articles are printed in the order in which the editor accepted them. There are three exceptions to this rule: the *Journal of Applied Psychology*, the *Journal of Experimental Psychology*, and the *Journal of Comparative and Physiological Psychology* accept articles for immediate publication if the author is willing to pay all publication costs. These articles are called "early publication" or "prior publication" articles because they appear earlier than they normally would or prior to their regular turn in the publication schedule of the journal.

For the past year and a half the Board of Editors and the Committee on Publications have been considering continuing or discontinuing the policy of prior publication. In September, 1947 the Committee on Publications requested that statements on both sides of the question be printed in the AMERICAN PSYCHOLOGIST in order to bring the problem to the attention of all members and to allow interested persons to express their judgment.

I have asked two APA editors to prepare the following statements since the editors are most thoroughly acquainted with the advantages and disadvantages of prior publication. The editors are anonymous. As is customary, the affirmative side of the case is presented first; the opposing arguments follow. The two sides of the case should be studied particularly by members of the Council of Representatives for they will have to decide what the APA policy will be. But the problem is of interest to all members: they write the articles, own the journals, pay the bills, and gain or lose by wise or unwise policy decisions.—DAEL WOLFLE

THE CASE FOR PRIOR PUBLICATION

At the September 1935 meeting of the APA, a Round Table on *Time Lag in Publication of Psychological Research* was held at the request of members who objected to the fact that there was, in general,

an unreasonably long time lag in publication of research papers. Many suggestions for reducing time lag were made. One of the most important was that provision be made for immediate publication at author's expense.

Following this meeting, this idea, which had long been in use by the *Journal of Applied Psychology*, resulted in the launching of two new journals to meet the need, namely, *Psychological Record* and *The Journal of Psychology*. At a later date, the *Journal of Experimental Psychology* and the *Journal of Comparative and Physiological Psychology* adopted the same policy.

At the September 1946 joint meeting of the Board of Editors and the Committee on Publications the question of the policy of prior publication at author's expense was raised.

At the meeting of the Board of Editors on April 11, 1947 extended discussion of the interrelated problems of publication lag and prior publication upon payment of costs by the author took place. The editor who had raised the question of prior publication was unable to be present but submitted a letter stating that the problem of lag in publication can be solved by merely accepting or rejecting articles so that no more than a six-months lag can possibly exist. It was his view that only the most significant articles be accepted. By arbitrary editorial action the problem of lag can thus be solved and by inference the policy of early publication at author's expense would be solved simultaneously.

It was pointed out that all papers meeting reasonable scientific standards should be accepted. If an arbitrary policy were to be followed of rejecting manuscripts because the editor's quota for six months happened to be filled, it would merely result in shifting "good papers" to competing journals or would result in the establishment of new journals to take care of the publication needs of ever increasing numbers of psychologists engaged in research.

On the other hand, if an editor accepts all papers meeting reasonable standards and, furthermore, if there is great productivity within the field represented by a given journal, it is obvious that lag in publication will become increasingly great. A policy

of prior publication at author's expense will help to reduce this lag. It will increase the budgeted number of pages per volume resulting in a direct contribution to the readers and subscribers without handicap to those authors whose articles are accepted and printed in their regular turn. This is an understatement because it is a direct benefit to authors whose articles are accepted and printed in regular turn since it is an important means of cutting down lag for these authors.

It should be pointed out that the policy of early publication at author's expense is a sort of automatic regulator of lag in publication. For example, when the lag becomes less than six months the editor can inform authors who desire early publication at their expense that the lag in publication is so short that "early publication at their expense" will not be of benefit. Under these circumstances such authors would undoubtedly desire to have their regular turn since "early publication" would tend to approximate "regular turn." Should the number of acceptable manuscripts dwindle so that an editor faces the task of preparing an issue without sufficient manuscripts on hand, it is obvious he would suspend the policy of early publication because it would, then, have no meaning.

The above considerations would seem to point to the desirability of permitting editors who have long followed the policy of early publication at author's expense (except during the war period when paper was rationed) to continue to do so. Policy would then vary from journal to journal depending upon the needs and conditions for each field represented by a given journal. Uniformity and rigidity of rules applied to all APA journals would seem to be administratively unwise. For example, the purposes and commitments of *The American Psychologist* are such as to demand a different set of policies from the purposes of *The Journal of Experimental Psychology*.

THE CASE AGAINST PRIOR PUBLICATION IN THE APA JOURNALS

Who are the owners of the APA journals? Each and every member of the APA is an equal owner. Hence it is obligatory upon the editors and the Committee on Publications, as trusted temporary agents of the owners, to strive constantly to maintain in their policies and practices absolute fairness to all members of the Association.

The policy of prior publication represents, in principle, an objectionable case of favoritism. It does

not treat each of the journal contributors (the great majority of whom are also the journal owners) alike, but gives special preference to those having greater financial resources at their command. Prior publication makes it possible for contributors with money to buy immediate attention for their scientific work, whereas those without money must wait several months for an equal chance to obtain attention. The principle is plainly undemocratic and therefore out of place in our Association. Let me cite two instances where the policy may operate unfavorably for the impecunious author.

1. An editor practicing prior publication receives, let us say, two marginal manuscripts. Neither is a clear "must"; both are on that painful borderline of acceptability where the editor finds judgment difficult and rejection disagreeable. One author offers to pay for publication; the other does not. The editor finds an inherently tough decision further complicated by this fact. Though he may not be consciously swayed, yet he may begin to "perceive" unexpected merit in the manuscript accompanied by cash. He starts to rationalize: after all it costs the Association nothing to publish this marginal article; the author assumes all costs; it will be just so much free "extra reading" for subscribers; it isn't keeping out or delaying better material; why not stick it in, especially since it means only one letter of rejection to write instead of two? The marginal author (poor) is excluded; the marginal author (rich) squeezes in. Not for a moment do I believe that an editor knowingly would follow this inequitable course; but as an editor myself I fear that the jingle of cash would inevitably complicate further my already difficult task of judging borderline manuscripts.

2. Still more serious is the injustice that may be done to the poor author who has written a paper of high scientific merit. Suppose Mr. A and Mr. B have both written significant PhD theses in, say, the field of experimental psychology. Both men are equally able and equally promising. Mr. A has money at his disposal with which to buy prior publication; Mr. B has none. Each has extracted two timely and acceptable articles out of his thesis materials. Each submits the two articles to APA journals. Since he offers to pay the costs, Mr. A has them both published promptly, let us say in the month of January. Mr. B's articles, due to normal lag, will appear at best in the following October issue. In June of the same year, a first-class university seeks an instructor in experimental psychol-

ogy. It finds A and B are the two best candidates in the field. But A, it discovers, has two published articles to his credit; B, none. Who gets the job? A, the affluent young man—thanks to the inequitable publication policy. To him who hath shall be given—but should the APA do the giving?

The essentially undemocratic nature of the policy can scarcely be disputed. Its proponents, however, argue that in practice probably not a great deal of harm is done. The sin is slight because the resulting illegitimate baby is so tiny. May we not overlook the seed of injustice in the system in the interests of various expedient gains?

This concession, I feel, would be a dangerous thing. The APA should have no policy on its books that is inherently inequitable, even though its inequitable nature may not at all times be apparent.

What other, privately owned, journals may do is irrelevant to the issue. The APA journals are member-owned and are not run for profit. Their policies must be judged in this light, and not according to

the practices of privately-owned, profit-seeking periodicals.

As for the argument that up to now little demonstrable harm has been done, I should like to point out that at the present time the prior publication policy exists in only three of our journals, and that its existence even in these journals is not widely known to APA members. Should it become the open and advertised policy of the APA to institute prior publication in all its appropriate journals (and surely if the policy is good for one it is good for all), then authors will become aware of the dual system, and will be tempted to purchase immediate space lest they lose out in the competition for professional attention. I venture to predict that the evil will then become greatly aggravated, and that the line between the haves and have-nots will grow sharp and embarrassing. The editor's task of judging manuscripts will become more difficult, and the cash competition for attention will wax invidious.

SUGGESTIONS ON THE FORMATION OF NEW STATE PSYCHOLOGICAL ASSOCIATIONS

Committee on Organization of New State Societies, Conference of State Psychological Associations

JAMES Q. HOLSOPPLE, HERMON W. MARTIN, HARRY J. OLDER, *Chairman*

The following hints, guides, and suggestions may be helpful to those who are in the throes of organizing new state psychological associations.

To those states in which a full blown state organization is only a gleam in the eyes of a few individual psychologists may we point out some of the benefits which states now organized have found in such an arrangement.

BENEFITS OF A STATE ORGANIZATION

With the trend in various states toward licensing and certification, it behooves psychologists in every state to get together and formulate their plans in this most important area. It is *only* at the state level that any progress can be made on legal licensing and/or certifying. Formal state organization makes more certain the unification of the attitudes of all psychologists in a state. It also lends weight when dealing with state governments to be able to present the recommendations of the entire group to be affected by proposed legislation. In one state, a state senator, upon discovering Lee Steiner's book, *Where Do People Take Their Troubles*, decided that in order to protect the public welfare, psychologists should be licensed. He consequently set about drawing up a bill to provide for same. Fortunately, his state had a well established organization of psychologists which was invited to advise him about the legislation. If such a thing should occur in a state in which psychologists have no organization, laws may be enacted which will affect every psychologist in the state without giving them a chance to state their case in any concerted manner.

Most state organizations have at least one meeting a year at which members may present papers and participate in the discussion of current problems of professional interest.

TO FORM A STATE ASSOCIATION

Let us assume, then, that a state psychological association is a good idea. What happens next?

Ordinarily it works this way. First, a few public-spirited citizens get together and decide to circularize the psychologists in the state. (Frequently, the only list available will be the APA Yearbook.) Through correspondence, a meeting of all interested psychologists will be arranged. This may be in connection with the state scientific association meeting, at a regional psychological meeting, or any other convenient time. Second, at this organization meeting a temporary chairman and secretary should be elected. A committee can be appointed to draft a proposed constitution. This tentative constitution can then be voted on by holding another meeting or by a mail ballot of all persons believed by the committee to be qualified for eventual membership.

Finally, assuming that a constitution has been adopted, a list of the membership can be drawn up and officers can be elected and you now have a state psychological association. Later on we will present a framework for a constitution which may be helpful. First, however, consideration should be given to possible affiliation with the APA, because this may determine some of the provisions of the constitution.

ADVANTAGES OF AFFILIATION WITH THE APA

There would appear to be many advantages to affiliation. Membership in the Conference of State Psychological Associations of the APA provides an opportunity to keep up with developments in other states through annual meetings and through distribution of information by the Conference throughout the year. In addition, the Conference has representation on the Council of Representatives of the APA, thus enabling the states to have direct participation in the governing of the national organization.

Another advantage that may result from affiliation should be considered. If a state association has members who are not members of the APA, such members may pay dues of \$4 per year to the APA and receive the *AMERICAN PSYCHOLOGIST* and a copy of the *Yearbook* achieving the status of State Affili-

ate in the APA. Some states establish a class of non-voting affiliates who are allowed to attend open meetings but do not receive journals or have any status in the APA.

In the event that affiliation is considered desirable, here is how to go about applying:

1. Check your constitution and by-laws to make certain they contain nothing which conflicts with the APA constitution and by-laws.
2. Send to the Executive Secretary of the APA, 1515 Massachusetts Avenue, N.W., Washington 5, D. C., the following things:
 - A. A copy of the constitution and by-laws.
 - B. A list of officers.
 - C. A list of members.
 - D. A letter requesting affiliation, stating on what such request is based, e.g. vote of the membership.

These materials will be presented by the Executive Secretary at the annual meeting of the APA which follows their receipt. At that meeting the application will be taken under advisement by the Council of Representatives, but will not be voted on until the following annual meeting.

Following is a suggested constitution which is actually a composite of those now in effect in the various states presently affiliated with the APA. The use of its main provisions will simplify matters, for it contains nothing which conflicts with the APA constitution.

CONSTITUTION OF THE — PSYCHOLOGICAL ASSOCIATION

ARTICLE I—NAME

The name of the Association shall be the (*name of state*) Psychological Association.

(For the sake of uniformity the APA has recommended the above. It is realized, however, that there may be good reason for adopting some other name, such as previous legislation, etc. Consequently, this recommendation is not restrictive.)

ARTICLE II—PURPOSE

The purpose of the Association shall be to advance psychology as a science, as a profession, and as a means of promoting human welfare.

(Several states use this, or some variant of it, and find that it covers the situation without being restrictive.)

ARTICLE III—MEMBERSHIP

(It is on this point that the existing states differ most widely. Any new association should consider most carefully just who its members shall be. The general consensus of most groups seems to be that since the state association will represent the profession in many spheres, particularly legal, it is necessary to observe high professional standards in delimiting the membership. It has likewise been recommended strongly by many persons that membership *not* be limited to any particular kind of psychologist, because it is quite apparent that those state associations which have been most effective in dealing with the outside world have been those in which *all* psychological interests in the state are represented, making it possible to present a united front.

In states where interest is high among non-psychologists most associations provide for such by the creation of non-voting affiliates. In view of these considerations most have adopted membership provisions similar to those below.)

1. Members shall be Members, Associates, or Life Members of the American Psychological Association who reside in or are employed in the state of —, and who apply in writing for membership.

2. Affiliates shall be Student Affiliates of the American Psychological Association or other interested persons who reside in or are employed in the state of —, and who apply in writing for membership.

3. Members shall have all rights and privileges of the Association. Affiliates may attend all meetings but may not vote.

ARTICLE IV—OFFICERS AND EXECUTIVE COUNCIL (OR BOARD OF DIRECTORS)

1. The Executive Council of the Association shall consist of the following: A President, a President-elect, a Secretary and Treasurer, the Senior Representative (in terms of service) to the Conference of State Psychological Associations, and two Executive Council Representatives at large.

2. The President and President-elect shall be elected for terms of one year each, the President-elect succeeding automatically to the presidency upon the expiration of his term.

3. The Secretary and the Treasurer shall be elected for terms of three years each.

4. The representative to the Conference of State

Psychological Associations shall be elected in accordance with the provisions of the Constitution and By-Laws of the American Psychological Association.

5. The Executive Council representatives shall be elected for staggered two-year terms.

6. A majority of the Executive Council's membership shall constitute a quorum.

(Local conditions will necessitate variations, but this is the setup generally used.)

ARTICLE V—COMMITTEES

The standing committees of the Association shall be:

1. The Committee on Ethics and Professional Practices.
2. The Committee on Membership.
3. The Committee on Nominations.
4. The Committee on Licensing and Certification.
5. The Committee on Programs.
6. The Committee on Relationships with Other Organizations.
7. The Committee on Elections.

(These are the committees which existing associations have found necessary. In no case has any one association set up all seven. Local conditions must determine which of these, or others, are necessary.)

Committee members will serve for the duration of the term of the president under whom appointed, and may be reappointed.)

ARTICLE VI—MEETINGS

The Association shall hold at least one business meeting during each calendar year, the dates of such meetings to be determined by the Executive Council and publicized to the membership at least 30 days in advance. Twenty per cent of the membership shall be required as a quorum. ■

ARTICLE VII—AMENDMENTS

Amendments to this constitution may be made at any business meeting by a majority vote of the members present; or by a mail ballot in which the polls shall be closed 30 days after date of mailing of ballots.

In the event that incorporation is considered desirable, legal advice on problems such as limited liability, profit-vs-non-profit status, ability to enter into contracts, to receive gifts and endowments, etc., should be secured before adopting a constitution and by-laws.

NEEDED RESEARCH ON EXAMINING DEVICES

DOROTHY C. ADKINS

U. S. Civil Service Commission

FROM time to time the U. S. Civil Service Commission receives inquiries from both university students and faculty members on suggested topics for thesis research or on the possibilities of carrying on research projects cooperatively with the Commission. For this reason, the Commission wants to make a general statement regarding its interest in research on examining devices and to show by specific illustration some of the types of research projects it would like to encourage.

The Commission welcomes research on all types of examining devices for a wide variety of government positions. It is at this time emphasizing research likely to increase the availability of or to improve written testing because more widespread use of written tests will have the greatest effect in promoting production and in reducing unit costs. It would be glad, however, to have access to research on methods of evaluating education and experience and on ways of appraising personality characteristics, such as those essential in working effectively with other persons.

When an organization such as the Commission begins to explore possibilities of the research that would be useful to it, there is danger of over-emphasis on projects having an immediate application to day-to-day operating problems at the expense of more fundamental research. It would be shortsighted to take the point of view of encouraging research only on such problems as the development of a valid test battery for selection of calculating machine operators and of being disinterested in more fundamental research as to the nature and methods of measuring of human traits. Although many pressing operating problems demand immediate workable solutions, over-all progress is in the long run dependent to a large extent also on basic study of the nature, organization, and interrelationships of human traits and their measurement. Thus the Commission encourages and will actively cooperate in some research for which the immediate application may not be readily apparent, but which will in the long run result in significant improvement of our examining and placement techniques.

In the case of some studies on which universities might be willing to cooperate with the Commission, it may be desirable or necessary that agreements be reached regarding protection of the confidential nature of test material. A thesis based on test material does not necessarily require reproduction of the entire test. A description of the items or a few sample items, together with directions, often suffice. For many other studies which would be useful to the Commission, however, this problem would not need to arise. If the results of a study show what kinds of tests should be used in examining for a particular class of positions and how they should be combined, the particular tests tried out would not be used as official tests of the Commission, but alternate forms could be constructed.

As a general rule, the forms of tests currently in use by the Commission cannot be made available for experimental purposes. In some instances, the Commission will devote particular forms of tests to research purposes, where the expected returns warrant such a course.

The staff of the Commission, both in its central and its regional offices, will give assistance to the limit of their resources in the planning and carrying out of test research projects. Care will have to be exercised to work out projects that can be completed within a student's time allotment. In some cases different aspects of a broad problem can be attacked by different students working under the guidance of one professor.

For some types of projects, arrangements can be made for employees of government agencies to serve as subjects. The continuing availability of the subjects over the period of time they are needed should be carefully explored, however. Studies requiring follow-up may lead to disappointment during periods of high turnover of personnel.

Listed below are some types of abilities on which research as to their nature and methods of measurement would be useful. There are also problems that need to be solved for each of a large number of occupations. When basic factors have been identified and practical tests for them devised (as is now true

in the case of some factors), the tests can be tried out for different occupational groups to determine which are useful in predicting job performance and what their weights should be. A project designed to yield the best techniques for conducting job analyses for test construction purposes would be worth while. Detailed job analyses for individual occupational classes would also be very useful. Similarly, improved general techniques for obtaining criteria of job performance would be helpful, and specific studies of the most suitable criteria for success in each of the major governmental occupations could also be used to advantage. For some of the broader occupational groupings, such as engineering, the most suitable number of options that should be used for examination purposes needs to be determined. For many occupational fields, knowledge of the classification grades for which a written test would improve validity or would yield essentially as good validity as an unassembled examination at reduced cost would be valuable. Should tests for higher grades contain harder items than those for lower grades, and, if the same tests are used for different grades, should the same or different rating standards apply? In many cases, a basis for determining whether a particular test should be included in the examination as a ratable element or only as a qualifying element is needed. What are the best weights to use for each of the ratable elements in examinations? The reliability of both tests and of criteria of successful job performance should be explored. The most appropriate test length and the most appropriate scoring formula often should be determined by tryout.

Not all thesis projects would provide the answers to all of these specific questions for particular occupations. They may serve, however, to suggest various plans for suitable projects.

The following list may also be useful in indicating some types of abilities on which research can be undertaken profitably.

1. The ability to write reports and government correspondence. A large number of government jobs obviously require the ability to write reports, letters, and memoranda.

2. Writing ability of the type needed in the information field, as distinct from editing ability.

3. Scientific writing ability (for such positions as Economist which require analytical studies with written reports). The extent to which this type of ability may overlap the writing ability referred to in

- (1) above is a question for investigation. It may also be that there are other types of writing ability that are distinct from these, such as that required for high-level administrative jobs.

4. Editing ability as distinct from writing ability.

5. Reading ability. Although there are many tests of reading ability, the question of how many separable reading factors there are remains unanswered. What reading factors are important? Are some more significant for particular fields of work than for others? What reading factors are related to success in administrative work? In scientific work? In legal work?

6. The ability to set up and plan scientific experiments and the possibly closely related ability to evaluate the results of these experiments. Research is needed on the basic nature of such abilities. Are they best measured by the use of conventional "intelligence" tests or are some specially devised tests needed? For example, the ability to evaluate scientific results possibly could be measured by requiring a choice from among several conclusions which could be drawn from the results of a particular experiment or the subject could be required to select from among several alternatives the design for an experiment that would best solve a particular problem or yield a required result. Perhaps a general test of such abilities could be developed by simplifying and diversifying the subject-matter content, or possibly separate tests would be needed for different fields, such as psychology, physics, etc.

7. Creative ability. By this is meant the type of ability required by inventive scientists, or the ability to get unusual insight or to get insight more rapidly than the normal person does.

8. Teaching ability. The problem of how best to predict teaching success is by no means solved. Here again, however, there has been some research. See, for examples, bulletins of the National Committee on Teacher Examinations of the American Council on Education, 15 Amsterdam Avenue, New York 23, New York.

9. Supervisory ability. What factors of aptitude, knowledge, and personality correlate with successful performance in dealing with other persons in a supervisory situation?

10. Abilities needed for contact or liaison work. What factors of aptitude, knowledge, and personality correlate with successful performance in a liaison situation?

11. Administrative or executive ability.

12. Abilities needed for successful performance in investigative work.

13. Abilities needed for a variety of clerical positions.

14. Abilities needed for a variety of machine-operator positions.

15. Abilities needed for subprofessional work, such as that of Scientific Aids.

16. Abilities needed for work at the beginning professional level. Should the examination consist of an aptitude test, a subject-matter achievement test, or both? If an achievement test were included, could minimum qualifications be dispensed with?

17. Accounting aptitude. What tests can be used to test the aptitude for learning accounting?

18. Abilities needed for successful performance in employee counseling. There is also need to know how to test the ability to conduct interviews, such as those involved in positions like Social Worker, Adjudicator, etc. It seems probable that written tests alone will not provide the answer for this type of ability, but it may be that written tests could be developed to cover at least a part of the abilities required.

Other subjects for research not relating to written tests but illustrating additional types of studies that also would be useful to the Commission and other agencies in connection with examining and placement techniques are as follows:

1. Methods for predicting the differences among people in adjusting to changes in their working environment in terms of organization, procedures, and personality.

2. Methods for measuring the differences in people in their preference for "rush" work or evenly-paced work.

3. Methods for determining which applicants or

employees are most likely to be content in routine, repetitive operations.

4. What elements, if any, are present in "face-to-face" leadership which are absent in impersonal leadership or "administrative ability"? What are the essential elements in face-to-face social control? How much of it depends on personal characteristics of the leader, how much on techniques and timing in applying controls?

5. What abilities are required in making field observations? How much of the ability of field naturalists, geologists, etc., to discover unusual or novel specimens is due to aptitudes? How much to training? How much depends on interest factors? How do such factors operate to produce results? If these abilities are dependent on training, what is the nature of the training?

6. How important are biographical data, including avocational information, in predicting the success of scientists? Of administrators?

7. What methods are best for determining the "persuasive" abilities of persons?

8. What are the basic interest patterns related to success in various occupations? What use can be made of data on differential patterns of interests in relation to competitive civil service examinations?

The foregoing suggestions are not intended to provide an exhaustive list of worth-while thesis projects but only to serve as illustrative of the many types of studies in which the Civil Service Commission is interested. Communications regarding any of these suggested problems or other topics, addressed to the Policy and Test Development Section, U. S. Civil Service Commission, Washington 25, D. C., are invited. Inquiries may also be made in person to our regional office Examining and Placement Divisions or to the Policy and Test Development Section in our central office.

THE NEW DIVISION ON MATURITY AND OLD AGE: ITS HISTORY AND POTENTIAL SERVICE¹

SIDNEY L. PRESSEY

The Ohio State University

THE Division on Maturity and Old Age is at present the only one in the Association which has been admitted according to the by-laws for establishment of a division. All the others were either carry-overs as from the American Association of Applied Psychology, or hypothecated by the joint committee of the APA and AAAP which drew up the new by-laws, as representing established interests. The experience of the division in getting itself into existence is thus of some general interest as bearing on the satisfactoriness of the procedures set up for this purpose. That only some five years ago this area was so little specifically recognized that it was then neither established nor hypothecated, but now is a group which has more than met the requirements, suggests that the field does have potential. It therefore seems worthwhile in both respects briefly to review the history of the division, and to consider its desirable program and possible service in the future.

ON THE PROCESS OF BECOMING A DIVISION

First as to history. Looking back, it would seem that for well over fifteen years there have been distinct stirrings of interest among psychologists regarding development and change through the adult and older years. At first, concern was with this or that special trait (as general ability or learning), or special period (as old age). But increasingly the need seems to have been felt for a total view of the development of the entire person, and throughout the adult years. The writer strongly felt this need. As a member of the joint committee of the AAAP and the APA which was formulating the by-laws for the new combined association, he therefore suggested that a proposed division of childhood and adolescence be instead a division of developmental psychology, and cover the entire life span. This suggestion aroused little interest; rather, the feeling seemed to be that those specializing on childhood and adolescence were a long established group, with their own

methodologies, affiliations, and services to render, and busy with their own interests and problems, thus making them a natural division unit.

The writer was inclined to agree. Moreover, those working with adults and the aged presumably would meet problems and need methods very different from problems and methods in the nursery school, for example. Services to be rendered would surely be different; different agencies would be involved. Types of psychologists interested in children and in oldsters might be different. In a big total group, a minority concerned with the older ages might be somewhat lost, and have little opportunity to develop programs or leadership. On the other hand, a new division especially concerned with the adult years would have an abundance of work distinctly its own, could best correlate with related interests as in medicine, and would have opportunity and need to find its own leaders and make its own plans.

An attempt to organize a division especially in this field therefore appeared worthwhile, to see if there was sufficient interest, and also to see how the as yet untried procedures set up in the by-laws for forming a new division would work. Accordingly, in July of 1945, the writer asked a small group of people who had worked in the area (H. S. Conrad, I. Lorge, H. C. Lehman, G. Lawton, C. Buhler, R. G. Kuhlen, W. R. Miles, D. Wechsler) whether they thought such a division desirable, and if so, would be willing to have their names appear on a request for signatures for its formation. All were in agreement; accordingly a petition asking for a new division was sent to about 600 individuals thought possibly interested. A statement was also published in the *Psychological Bulletin*. About 160 favorable replies were received by December, 1945; only six were in any respect unfavorable and these on the grounds that there were already too many divisions, or that a division of human development including childhood and adolescence would be more desirable.

¹ First presidential address of the Division on Maturity and Old Age, Detroit, September 12, 1947.

These signatures were turned over to Dr. Marquis as Recording Secretary of the Association, and the division approved at the skeleton meeting held in Columbus in December, 1945.

Had enough interest been shown to warrant a division? Only future outcomes can answer that question—as for most other divisions also. How had the by-law machinery worked? Smoothly. But were requirements stiff enough? The first question should be answered before that one can be, adequately. The number of petitioners required might well be raised from 50 to 100. However, the need would seem to be not so much for higher bars against the organization of new interests (inertia, lack of leadership, and conservatism will usually take care of that problem), as for more ready means for elimination of feeble divisions.

Though the Association had approved the division, much remained to be done. Tentative by-laws were prepared, sent to those signing the original petition, revised in terms of a few suggestions, and unanimously approved by all those replying. Votes were also obtained as to best name (Division on Maturity and Old Age seemed most favored) and suggestions as to desirable committees, and members for them. In '46 first officers were elected, a first business meeting held at Philadelphia, and now the first program presented here in Detroit. Presumably by now the division is really under way. But for what purposes? A brief word now about these matters.

MAJOR SERVICE TASKS

In the first place, the division should have major contributions to make, to bring about more effective dealing with important current practical problems. Interest in the older individual has grown so rapidly that some felt this division might well confine itself to the older ages. The increasing proportion of old persons in the population, and their better health and greater longevity, all can result in their greater usefulness, or increasing burdensomeness on society. That medicine sees the urgency of this situation is evidenced by the recent establishment of two journals dealing with gerontology and geriatrics. However, it is well recognized that even what seem problems of health in the older ages may often be primarily psychological. The debilitating effects of retirement are quite clearly problems for psychology. Institutions for the elderly differ enormously in the extent to which they are either depressing or stimulating, and have real programs. The elderly person

not in an institution may have even more disturbing problems; and they may also affect, in diverse ways, his family.

Soon or late, in one way or another, these problems become personal problems for most of us. When should retirement come? Should there be tapering before? What should a professional man do after? We have doubtless all seen faculty members blunder about with these problems. They are often distressing for both the individual and the institution. They are primarily psychological problems and they much need psychological study. Psychologists should find here distinctive opportunities for both constructive professional work before retirement *and* continuing usefulness after. The importance of old-age counseling is well recognized. Various types of programs for the elderly are now developing to help them find recreation, companionship, and usefulness. Other old people might best understand and be in a position to work on many such subjects.

The division has taken the attitude that it was not concerned simply with the older ages, but rather with the total sweep of development and change from adolescence on. What are some of the problems included by this more extended concept? It brings in the issue of "retirement" in fields such as aviation where an individual may not be able to continue as pilot beyond middle age. Such an instance well illustrates that competences in different types of work show different rates of decline. Psychologists might well consider to what extent, in such a field as aviation, an early retirement limit might be extended by better adaptations of men or machines, or other opportunities found, once a special usefulness is passed. More generally, what relations may age have to work? What about the older executive in business or government or in educational institutions? Is conservatism or testiness or simply slowness in older administrators a danger, increasing as leadership tends more into older hands?—Such factors can be of pervasively great importance in a business, a college, a government. These questions should receive systematic psychological study. They are issues that affect us all.

Psychiatrists well know that there are age differences in the incidence of mental diseases. What of the menopause as a psychological phenomenon? Various psychological problems appear at various ages, many perhaps made by our society rather than by age in itself, but nevertheless real now. What, for instance, of the middle-aged woman, perhaps

widowed or divorced, or perhaps recently finished with the tasks and purposes involved in bringing up children? Few of these problems have received the psychological attention they should. But chronic adjustmental problems may have their locus in the job rather than the family. Two graduate students have recently made, for the writer, studies of the inter-personal relations among teachers in an elementary school, and workers in a library. What problems these good people did have! A controversy about an office window, opened and closed six times in one hour. The teacher who could not forget former wealth. The one whose much-talked-of baby never came. The usual cliques and jealousies. But before we smile too broadly at these vagaries, don't most university departments, even of psychology, have as unfortunate or trivial difficulties? Should not a practical psychology study ways of dealing with them? And are not developmental factors in these instances important—the frustrations of middle age, the exasperation of personality conflicts which have continued many years and seem likely to continue many more, both the rivalries and the favoritisms which spring up between different age groups.

Practical problems of development and change come not only to those in retirement, to the older worker, to the middle aged; they come also early in adult life. For instance, soon our colleges will graduate many thousands of veterans who have the maturity, the desire for status, and often the family responsibilities of men nearing 30, but nevertheless academically and vocationally are only lads just through their schooling. That there are many practical problems—of marriage, vocation, recreation, adult education, community living which need seeing with more of a developmental perspective, need not be further illustrated.

MAJOR RESEARCH PROBLEMS

The need for research is very great, and little done as compared to accomplishment regarding the first two decades of life. What can be done to bring genius to earlier and greater fruition—or continue high levels of productivity, if fruition does begin early? May we not have a new nature-nurture controversy regarding the decline of the later years? Recent studies have emphasized the highly individual character of the curves of growth in abilities for each child. There seems every reason to believe that the development, proliferation, or decline of

abilities in the adult years will be found far more complex, and subtly affected by both constitution and circumstance. What are the shifts in basic attitudes from early to middle to later adulthood? Social development and change is indeed an elaborate process through childhood and youth; how much more so during all the years following. Only glimpses seem as yet obtained of the exquisitely sensitive growth of the emotional life during the first 20 years; how much more subtle and complex must be that growth and change during the next 60! Little is known of the integrative elaboration of personality in the first two decades; how much more complicated must be that process in the three score years following!

We in this division are concerned with a range of years three times that of childhood and youth, during which there are changes probably in total more complex and more controllable, if means of control were known. They are the important years of life. They have been studied developmentally almost not at all. It seems not too much to hope that ours might be *the* field of most fruitful and distinctive psychological work of the next two decades.

RESUME AND POLICY

In final resume it may, then, be said that this division is the first to come into being by due process of by-law, so to speak. It found the law reasonable, and the process not unduly burdensome. It attempts to organize, and thus explicitly recognize and foster, work in a field of psychology until recently largely neglected. It is indeed much concerned with old age, but no less with the other adult years, since it emphasizes that development and change go on throughout the adult period, which should be seen as a whole. Throughout the period there are problems—vocational, familial, social, economic—toward a better understanding of which we hope to contribute. The division believes that a true developmental psychology includes not simply the period of growth, but the entire sweep of the human life span. Ultimately, a union with that other developmental group concerned with the first two decades of life may therefore well be desirable. However, this division should continue until the major purposes have some assurance of accomplishment; until psychologists do think developmentally about the years after 20 as well as the years before, and until problems of adult life which much need study from that point of view are so dealt with. It has contributions to make, to psychology and to human welfare.

THE SCANDINAVIAN MEETING OF PSYCHOLOGISTS IN OSLO, 1947

The first Scandinavian meeting of psychologists was held in Oslo, August 5-9, 1947. About 400 psychologists and students of psychology from Denmark, Finland, Iceland, Sweden, and Norway participated. The agenda included problems both of theoretical and applied psychology.

The King, Crown Prince and Crown Princess of Norway attended the opening session. The Prime Minister greeted the guests on behalf of the Government. Professor Aase Gruda Skard, president of the Norwegian Psychological Association, reviewed the part played by the Scandinavian countries in psychological research. Professor, dr. Harald Schjelderup, director of the Psychological Institute at the University of Oslo, was elected president of the meeting. In his opening address he underlined the importance of psychological research not only in winning the war, but even more in winning and consolidating the peace.

During the meeting the following lectures were delivered at plenary sessions:

Arvo Lehtovaara (Finland): The first impression.
Edgar Rubin (Denmark): The realities of everyday life as a problem.

G. Rasch (Denmark): Evaluation of intelligence tests.

Torsten Husén (Sweden): Principles of the construction of group tests for measuring the total intellectual resources in adults.

Harald Schjelderup (Norway): Change in personality caused by global psychoanalytical treatment.

At the sectional sessions the following papers were read:

I. General and Experimental Psychology

J. Joergensen (D.): What is psychology?

T. A. Kaliski (D.): Some part-whole problems in the psychology of perception.

L. Székely (S.): The availability of acquired knowledge for productive thinking.

R. M. Volqvartz (D.): Observations on the transposition of size.

F. Brandt (D.): Form colorism. New contributions to the psychology of visual perception.

J. Andersen (D.): On the biological intelligence and its functions.

E. Oestlyngen (N.): The disproportionate occurrence of right- and left-turned drawings.

P. Koseleff (D.): On constancy phenomena.

II. Child Psychology and Educational Psychology

Helga Eng (N.): Recent work of the Institute of Educational Research at the University of Oslo.

B. Leunbach (D.): Self regulation as a method in child care. Observations on own children.

L. Bernstein (S.): Education and modern psychology.

I. Johannesson (S.): Social types in the school class.

III. Personality, and Social Psychology

E. Tranekjaer Rasmussen (D.): Some characterological investigations in connection with selection of salesmen.

C. Joergensen (D.): Character and ethics.

I. Nissen (N.): The problem of suggestion.

A. Hansen (D.): Nicknames and their influence on character and personality.

A. Lehtovaara (F.): Mimics as a psychological problem of heredity.

G. H. Monrad-Krohn (N.): Excessive unilateral mimics in connection with impairment of voluntary facial movements.

Oe. Oedegaard (N.): On the psychology of social groups as indicated by their insanity frequency.

A. Langkjaer (D.): The psychology of needs and sales possibilities.

IV. Psychological Tests

T. Husén (S.): Problems of intelligence tests in the light of investigations of twins. An examination of 200 pairs of male twins.

N. Bratt-Oestergaard (D.): Results of the Rorschach test on Danish traitors.

E. Bohm (D.): The Rorschach diagnosis of psychasthenia.

F. Piene (N.): School maturity tests.

V. Occupational and Vocational Psychology

A. Madsen (D.): A follow-up study of the selection of employees.

G. Sjallung (D.): An improved evaluation scale in vocational psychology.

A. Wollstein (D.): Psychological examinations of handicapped persons (especially of deaf-mutes).

V. Coucheron-Jarl (N.): Terminological problems in occupational psychology.

(Continued on page 111)

Student Affiliates

WITH this month's issue of the *American Psychologist* a new section, devoted exclusively to material considered of importance to Student Affiliates of the APA, is being initiated; it is designed to fit the needs of the expanding group of graduate students in psychology. Possibilities for inclusion on this page are (1) notices of assistantships, fellowships, scholarships, internships, etc.; (2) job opportunities in the field; (3) articles on topics such as psychology as a career, training programs, and problems of the graduate student; (4) announcements and reports of Student Affiliate sessions at regional and APA meetings; (5) announcement of plans of the Committee on Student Affiliates; and (6) notes and news of special interest to Affiliates. Readers are urged to send to the Editor of the *American Psychologist* any material which they believe would be of interest. The committee believes that this page will foster in Student Affiliates a feeling of "belonging" and will enable the APA to serve their needs much better.

Student Affiliateship enables students in psychology to become identified with the APA prior to the completion of their training. While the Student Affiliate is not a member of the APA, he receives, for a \$7.50 annual fee, a copy of the *Yearbook*, subscriptions to the *American Psychologist* and the *Psychological Abstracts*, and is permitted to join one of the three journal clubs.

It has been agreed that the student in order to affiliate must (a) be endorsed by a member of the APA and "... be judged by that member to have sufficient ability to continue with psychology as a profession;" (b) have completed at least his sophomore year with three courses in psychology; and (c) "... have a satisfactory general average with a 'B'

average in psychology." A person cannot normally continue as a Student Affiliate for more than three years. If the Affiliate cannot qualify for membership in the APA during this time, the Affiliateship may be renewed.

Applications may be obtained from the chairmen of departments of psychology or from the office of the Executive Secretary and may be filed any time during the year.

Proof of the role that the APA is playing for students is the addition of 1400 Affiliates in a little over two years.

Since the establishment of the Committee on Student Affiliates by the Board of Directors of the APA in 1945, the committee has been able to initiate, under the chairmanships of John Gray Peatman and Stuart W. Cook, various types of activities to serve the needs of Student Affiliates. Sessions have been held at regional meetings to discuss the problems of students, and a session on job opportunities was scheduled at the last APA meeting. These and other activities which will help meet the problems of Student Affiliates are being undertaken by the present committee of Francis P. Robinson, chairman, APA members Robert C. Tryon, Beth Wellman, Walter C. Shipley, and Robert L. Thorndike, and student members Fred Vanasek, Robert Dixon, Margaret Shuttleworth, and Caroline Josephine Franke. Student Affiliates are urged to communicate with any member of this committee on any activities which they feel will help them maintain closer contact with the profession or will enable the APA better to serve their needs.

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(Continued from page 110)

VI. Clinical Psychology

- A. Tamm (S.): The psychology of mistakes.
- O. Raknes (N.): A short treatment by character-analytical vegetotherapy.
- S. Pedersen (S.): Psychopathological reactions to profound social changes. (Refugee neurosis and displaced persons.)

A full day was given to the discussion of the education of psychologists and to their working condi-

tions. A committee was elected to deal with the questions of cooperation among Scandinavian psychologists, including the publication of a Scandinavian review of psychology.

The next Scandinavian meeting of psychologists will be held in Sweden in 1950.

AASE GRUDA SKARD
*President, Norwegian
Psychological Association*



HENRY CHAUNCEY
PRESIDENT, EDUCATIONAL TESTING SERVICE

Across the Secretary's Desk

APA VS. DIVISION MEMBERSHIP

When 1948 dues bills were mailed to APA members last November I sent along with each an explanation of how to compute the year's dues. The explanation was made necessary by the fact that the APA is trying to let the divisions assume all the rights and powers granted them by the constitution. One of those powers is the right to determine its own membership. So each APA member got an explanation telling him which, if any, divisions he belonged to, how much it cost to belong to the divisions, how to resign if he did not want to accept all his division memberships, and how to compute the total he owed. I pointed out that each division had full authority over its own membership and that questions about membership in a specific division should be taken up with the secretary of that division.

For many APA members, the 1948 dues bill provided the first accurate information of their status in the different divisions. The interests of some of them had changed since the time several years before when they had expressed their preferences. Hence we have been writing explanations and returning money ever since to people who did not follow the instructions—people who sent extra money and asked me to add their names to another division. Since the rules governing division membership are still not clear to all members, I am going to try to explain them here.

The APA and its 18 divisions can be thought of as 19 overlapping circles. One circle includes all APA members; the other 18 each include the members of one division. A person can belong in the APA circle without belonging in any of the division circles or in a division circle without being in the APA circle. Or, he can belong in the APA circle and in any number of division circles.

Each circle determines its own membership. No matter how long he has been a member of the APA a person cannot become a member of one of the divisions unless that division elects him. If it wants to, a division can require APA membership as a prerequisite to division membership. Then the division circle lies wholly within the APA circle. That is the case with a number of divisions. But a division can also admit non-APA members if it

wishes to. That is true, for example, of SPSSI; about half of its members do not belong to the APA.

Here are the classes of division members and the rules governing the election of each:

Division Affiliates. If a division wants to include persons who are not members of the APA, it can do so. These people are *Division Affiliates* of the APA. The division can call them members or affiliates just as it likes. The only titles it cannot call them are "Associate" and "Fellow", because those are APA titles.

Associates. When a person wants to join the APA, he submits APA application blanks. These applications accumulate until the Board of Directors has its winter meeting. Then the Board reviews all accumulated applications and elects those who meet the APA's membership requirements. The divisions do not enter into this process until after the person has been admitted to the APA. Then I send the new Associate a letter explaining the division structure. I tell him that the membership requirements of each division were published in the January 1947 *American Psychologist* and that he may apply to any division for which he considers himself qualified. Incidentally, each division's requirements for Associates and for Fellows will be republished next month. When the division receives an application, either from one of these newly-elected Associates or from someone who has been an APA Associate for a longer period, it is free to act on the application in any way it sees fit. The person is already an APA Associate; he can become a division Associate also if the division elects him. If the division rejects him, he is still an APA Associate.

Fellows. When an Associate wants to become a Fellow, he must be approved both by a division and by the APA. Here the APA and the divisions must work closely together. For under the present constitution neither, acting alone, has the power to make a person a Fellow. The divisions cannot elect Fellows; only the APA can do that. But the APA can only elect Fellows who have been nominated by a division.

The procedures are as follows: When a person wants to be promoted from Associate to Fellow he applies to a division. If the division approves, it

nominates him to the APA, saying, in effect: "We think this person is worthy of becoming a Fellow and we nominate him for that honor." The Board of Directors reviews all these nominees to make certain that they meet the APA's minimum standards, seconding the nominations, as it were, of the divisions. Then it passes the recommendations on to the Council of Representatives. If the Council approves, the person becomes a Fellow of the division that nominated him and is given its title, such as Fellow in Clinical Psychology. In brief, the division nominates the Fellow and picks the title by which he will be known. But the APA Council of Representatives does the actual electing.

After a person once becomes a Fellow, a special situation arises: he may then be granted the title of Fellow in some other division without reference to the APA. For example, suppose that an APA member who belongs to the Division of Esthetics and the Division of Theoretical-Experimental Psychology becomes a Fellow in Theoretical-Experimental Psychology by the procedure just described. Then the Division of Esthetics can say: "We think you ought to be a Fellow in Esthetics also so we grant you that title." The APA has nothing to say about the second title; it approved the title of Fellow for the applicant when he became a Fellow in Theoretical-Experimental Psychology.

Because these membership rules are still relatively new, many members are not acquainted with them. Frequently, therefore, they write to the APA office asking me to add their names to a specified division. Because many divisions accept any APA member who wants to join, I frequently know in advance what is going to happen: I write to the applicant telling him that he must apply to the division; he writes to the division secretary who accepts him and asks me to add the new member's name to the division roster. Knowing in advance that this is going to happen, it would be easier simply to add the name directly without bothering the division secretary. But if I do that, I am taking away the division's privilege of choosing its own members.

Coordination between the APA and the divisions on these membership problems requires a time table. The divisions meet once a year. The Council of Representatives meets once a year. New Associates are elected by the APA once a year. Dues bills are mailed out once a year. Election of Associates and promotion of Associates to Fellows have to be fitted into this time schedule. The Council cannot have a

special ballot whenever someone decides he wants to become a Fellow. We cannot afford to make out dues bills and mail them whenever someone decides he wants to join a new division; the one dollar extra dues he pays for joining another division would not pay for the clerical work and the several letters involved. So here is a possible schedule for the APA and the divisions:

Division Affiliates may apply for election to a division whenever they want to. The division can act upon these applications whenever it wants to. It reports them to the APA office by October first of any year. In November the person receives a dues bill. If he pays it, he becomes a Division Affiliate on the first of the following January.

Associate applicants may apply to the APA any time they want to. All applications on hand by March 1 are reviewed by the Board of Directors in March. Those elected are notified in April that they have been elected Associates of the APA. Their election is effective as of the preceding January 1.

Associates may apply to a division whenever they want to. The division can act upon these applications whenever it wants to. By October first of each year the division reports the names of its new Associates to the APA office. In November each Associate receives a dues bill informing him of his membership in the division. That membership becomes effective the first of the following January.

Fellow applicants may apply to a division whenever they want to. The division must examine their credentials and nominate those whom it approves before the Council of Representatives meets in September. Actually, in order to allow the Board of Directors time to examine these nominations, they must be received by August 1. The Council votes on all nominations in September. In October each applicant is notified of success or failure. In November each newly-elected Fellow gets a dues bill showing his new status. That status becomes effective the first of the following January.

I am afraid that all these rules may still sound complicated and full of red tape. But with 18 divisions and the APA besides, rules are necessary. With the APA and the divisions all holding power over membership, none can afford to violate another's rights. So these are the rules that are in the process of being established. If the members understand them, 19 secretaries will lead easier lives.—DAEL WOLFE.

Psychological Notes and News

John G. Jenkins died on January 30, 1948 at the age of 46. He had been professor and chairman of the department of psychology at the University of Maryland since 1938. During the war years he served as chief of the aviation psychology program in the Bureau of Medicine and Surgery, United States Navy. Dr. Jenkins was a cooperating editor of the *Journal of Applied Psychology* and the *Psychological Bulletin*, a member of the American Board of Examiners in Professional Psychology, a member of the Board of Trustees of the Psychological Corporation, president of the APA's Division of Industrial and Business Psychology (1946-47), and president of the Division of Military Psychology (1946-48).

Thaddeus L. Bolton, former chairman of the department of psychology at Temple University, died January 3, 1948 at the age of 82. About a year ago he established the Thaddeus L. Bolton Trust Fund of \$63,000, the income of which is to be used for psychological research by the department at Temple.

Margaret Henninge, school psychologist at White Plains, New York, died March 28, 1947.

Educational Testing Service is the name of the newly formed organization which merges the testing activities of three leading agencies in this field: the American Council on Education, the Carnegie Foundation for the Advancement of Teaching, and the College Entrance Examination Board. James B. Conant, president of Harvard University, is chairman of the Board of Trustees. Other trustees are: James W. Fulbright, United States Senate; Raymond Allen, president, University of Washington; Katharine McBride, president, Bryn Mawr College; Dean Thomas R. McConnell, University of Minnesota; Francis T. Spaulding, New York State Commissioner of Education; Joseph W. Barker, president, Research Corporation, New York City; Harold Hunt, superintendent of schools, Chicago; and Lester Nelson, principal, Scarsdale High School, Scarsdale, New York.

Henry Chauncey is president of Educational Testing Service, having previously been director of the College Entrance Examination Board. He

formerly served as assistant dean of freshmen, assistant dean of faculty, and chairman of the committee on scholarships at Harvard.

Only the testing activities of the three groups have been merged. Each will continue independently its other activities in the field of education. The units of the American Council on Education involved are the Cooperative Test Service, the National Teachers Examination, and the ACE Examination. The Carnegie activity involved is the Graduate Record Office. The College Board is turning all its testing activities over to the new agency but will continue as an association of colleges and schools having common interests in problems of admissions and related educational matters.

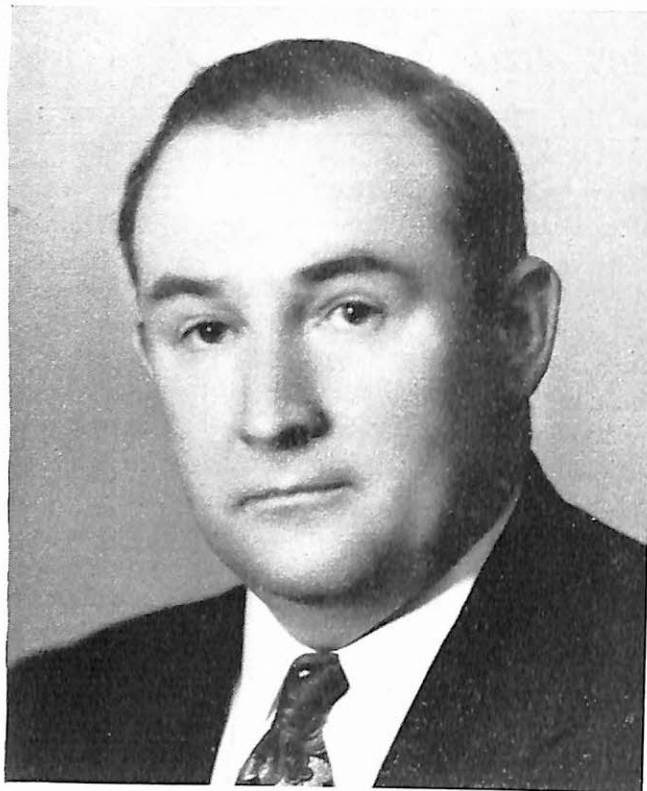
Psychology was the most popular of the subjects which the U. S. book reader called for in 1947, according to the American Library Association's report reviewed in *Time* magazine for February 9, 1948. Books on housing ran second in demand, and books on business third. "The average American betrayed no interest at all in World War II, atomic energy, or international affairs."

Cecil M. Freeburne has joined the staff of the department at Bowling Green State University at the rank of assistant professor.

Morgan Upton, chairman of the department of psychology at Rutgers University, has been decorated by the British Government. He was made Honorary Officer of the Civil Division of the Most Excellent Order of the British Empire. The service which resulted in this decoration was rendered as Deputy Director of the British Ministry of Supply Mission from 1941 to 1946.

Milton E. Hahn became dean of students at UCLA on February 1. He was formerly director of Syracuse University's Psychological Service Center, a post which will now be filled by **Maurice E. Troyer**. Dr. Troyer is also director of the Evaluation Service Center and professor of education at Syracuse.

Garth L. Thomas was appointed instructor in experimental psychology at the University of Chicago beginning January, 1948.



GEORGE A. KELLY
The Ohio State University
1948 Program Committee Chairman

APA in 1948. Each year two new people, one in charge of the Program Committee and the other in charge of the Local Arrangements Committee, are inducted into the work it takes to run an association. George A. Kelly, heading the Program Committee, has been gradually broken into the facts of association life by the system of having served on the committee in previous years. His duties will be over by the time the APA program is published in July. After that he may receive complaints, but he will not have to work late arranging events. Irving Whittemore, completely new to the job, as local chairmen usually are, would find Edward T. Raney (chairman, 1947) able to offer heartfelt advice. He will work hard up to the time of the APA meeting, and during the meeting itself will be besieged night and day by people unable to find rooms, people who want to change hotels, program chairmen who find their rooms too small, the Board of Directors wanting a mimeograph machine, and others with still other wants. By Monday morning after the APA meeting, he will feel he deserves a vacation from psychologists; but actually, if past experience is any guide, he will have to start promptly to work on his own job, to make up for all the hours he gave to APA in the preceding months.



IRVING C. WHITTEMORE
Boston University
1948 Chairman of Local Arrangements

APA in 1914. Florentine Hackbusch has sent in the following account, which she found in the *Psychological Clinic* of Nov. 15, 1914. The italics are hers.

"The American Psychological Association will meet this year in conjunction with the American Association for the Advancement of Science at the University of Pennsylvania, Philadelphia. The session will be opened by the President, Professor R. S. Woodworth, of Columbia, on Tuesday of Christmas Week, December 29th, and continue on the following days. For the general gatherings of the Psychological Association, the Board of Managers of the University Hospital has granted the use of the Medical Clinic Room, which *will seat 200 to 300 persons*, is well equipped with projection apparatus, etc., and has several entrances. The University Hospital is only half a block distant from the Laboratory of Psychology in College Hall, where similar meetings of committees and sections will be held.

"The Headquarters of the Association will be the Hotel Walton.... The social possibilities of the occasion will be cared for by the University of Pennsylvania, *which will entertain the Association daily at luncheon.* This will give an opportunity for

informal conferences, making the members better acquainted and facilitating the transaction of business, as well as adding greatly to the enjoyment to be had from meeting."

George D. Stoddard, president of the University of Illinois and a member of the U. S. National Commission for UNESCO, has been appointed the United States representative on the Executive Board of UNESCO. Dr. Stoddard replaces **Milton S. Eisenhower**, who had been serving temporarily on the board.

Norman A. Stack was recently appointed executive director of the new Jewish Vocational Service in Toronto. He was formerly acting director of the Boston Jewish Vocational Service.

Michael Erdelyi, formerly with the University of Detroit, has since last fall been professor of psychology at Mary Washington College of the University of Virginia, Fredericksburg.

William F. Madden has resigned from Middlebury College and has accepted a commission as Lieutenant in the newly formed Medical Services Corps of the Navy Dept. in Washington, D. C.

The Virginia Academy of Science will hold its 1948 meeting on May 6, 7, and 8 at the Hotel Roanoke, Roanoke, Virginia. The Psychology Section will meet on May 7th.

The psychologists of Belgium have recently formed an association entitled "Societe Belge de Psychologie". The following are officers: president, **M. A. Michotte**; vice-president, **M. A. Ley**; secretary, **M. S. De Coster**; treasurer, **M. J. Nuttin**; and delegates, **M. F. Fransen** and **M. J. Paulus**.

The Quarterly Journal of Experimental Psychology is the name of a new British journal of psychology which will include both experimental laboratory investigations and clinical studies with a scientific orientation. The editor is **R. C. Oldfield**, and the editorial board is **D. Russell Davis**, **G. C. Drew**, **G. C. Grindley**, **M. D. Vernon**, **J. W. Whitfield**, and **O. L. Zangwill**.

The journal will be open to contributors from any country. All editorial inquiries should be addressed to **R. C. Oldfield**, Institute of Experimental Psychology, 34, Banbury Road, Oxford, England. The

annual subscription of thirty shillings should be sent to Messrs. W. Heffer & Sons, Ltd., Petty Cury, Cambridge. It is hoped that the first number will appear in the spring of 1948.

Stanley D. Porteus director of the Psychological Clinic of the University of Hawaii since 1922 and previously director of the research laboratory at the Training School, Vineland, New Jersey, will resign from the University of Hawaii early this year. His present plans are to spend full time in writing and research.

Jess Spirer was appointed coordinator of the University of Miami Guidance Center, succeeding **John R. Beery**, who was appointed dean of the School of Education. Dr. Spirer was formerly director of the Psychological Clinic, which is part of the Guidance Center.

The College of Speech Therapists, England, is holding a Conference on Speech Therapy in London at the Royal Society of Medicine, from September 20-24, 1948. One of the chief aims of the College in arranging this Conference is to promote the organization of an International Federation of Speech Therapists.

The 1948 Vassar Summer Institute for Family and Community Living, under the directorship of **Mary Fisher Langmuir**, is offering classes for about fifteen hard-of-hearing children, aged 4-12, from July 1 to July 29. The Vassar Institute is a graduate school for parents, teachers, and professional social workers. Workshops and seminars for the parents of these children and for teachers of the hard-of-hearing will be directed by **Ciwa Griffiths**, specialist in speech and hearing for San Diego County Schools; **Lee Meyerson**, research fellow for USPHS; and members of the regular staff. Applications are invited.

The U. S. Office of Education has made its first two appointments of specialists in liberal arts at the college level: **Jennings B. Sanders**, former president of Memphis State College, as specialist in history, and **Otis W. Freeman**, on leave from Eastern Washington College of Education, as specialist in geography. The addition of other specialists in economics, psychology, the biological sciences, the physical sciences, and mathematics is also planned.

Social Science Research Council Fellowships and Travel Grants are available for 1948 for work on problems related to understanding the contemporary culture of a major world area outside the United States and Canada. Awards will be made for Predoctoral and Postdoctoral Area Research Training Fellowships and for Travel Grants. The closing date for the receipt of applications is April 1, 1948. Address inquiries to Fellowship Secretary, SSRC, 230 Park Ave., New York 17, New York.

The Summer Rorschach Workshops for 1948, conducted by Bruno Klopfer and Associates, will be held at Homestead, Crafts, Carmel, New York on June 6-17 and June 17-29; at Claremont Colleges, Claremont, Calif., on Aug. 1-12; and at Asilomar Conference Grounds, Pacific Grove, Calif., from Aug. 13-25. Each workshop begins with the evening meal of the first day and ends with the noon meal of the last day. Residence rates for room and board will be around \$5 to \$7 a day. Tuition is \$50.00 per section. Veterans may register under the G. I. Bill of Rights. Applications should be sent to Bruno Klopfer, 480 Redwood Drive, Pasadena 2, Calif.

Clinical Psychologist, Michigan. Pontiac State Hospital has a vacancy beginning in July for a PhD in psychology with three year's clinical experience. The starting salary is \$4020. Applications should be addressed to Mr. J. Allard Spoor, Personnel Director, Pontiac State Hospital, Pontiac 11, Michigan.

The Summer Research Program at the Jackson Memorial Laboratory will run on as normal a basis as possible after the fire last fall on Mt. Desert Island. Facilities in the field of comparative psychology and sociobiology were not damaged and will be somewhat enlarged during the year of 1948. Applicants should write to the laboratory as soon as possible.

Six graduate research fellows to work on the effectiveness of instructional films will be appointed by the Pennsylvania State College, which has been awarded a contract by the Office of Naval Research. The stipends are from \$1000 to \$2400. A PhD or advanced graduate standing is necessary.

An appropriation of \$45,000 has been made by the Rockefeller Foundation to the Ohio State University for a study of executive positions in educational institutions. The staff of the Ohio State Leadership

Studies who will supervise the study includes **Carroll L. Shartle** as director, **Ralph M. Stogdill**, and **Alvin E. Coons**.

The second Jackson Hole Wildlife Park summer research program has been announced by the New York Zoological Society. Animal behavior will be studied as one of the areas of research. Limited grants-in-aid up to \$500 are available for qualified graduate students and other research workers. **Clarence R. Carpenter** of Pennsylvania State College is the psychologist on the committee; he has application blanks for those interested in further information.

St. Elizabeth's Hospital, Washington, D. C. has set up an internship program. It offers training at two levels, the junior for those having their master's degree in clinical psychology; the senior, for those who have already achieved the PhD. Stipends are approximately those set up by the Public Health Service, ranging from \$1600 to \$2400 according to the number of years of graduate work completed.

Peter Blos has written that he is directing a Summer Workshop in Counseling at Goddard College, Plainfield, Vermont from July 5 to August 14, 1948. "On the staff will be **Camilla Kemple**, Executive Editor, Rorschach Research Exchange and Journal of Projective Techniques. Other staff members to be announced later." For announcements, write to Goddard College, Plainfield, Vt.

A Rorschach Seminar at Southern Methodist University in Dallas will be conducted by **Samuel J. Beck** from March 25 to March 28. The course, to occupy four hours daily plus one night session, will be for advanced students. Tuition is \$25.00. For details, write **A. Q. Sartain**, Chairman of the Department, Southern Methodist University, Dallas 5, Texas.

Clinical Psychologist, Child Psychologist, Bard College. Bard College has two openings in psychology for the academic year 1948-49: one for a clinical and experimental psychologist of either sex, preferably with PhD and with suitable training and experience, and the other for a young woman to teach child psychology and direct supervision of the nursery school. Qualified persons should write Dr. Edward C. Fuller, President, Bard College, Annandale-on-Hudson, New York.

[illegible]

The meeting will be devoted to a discussion of various matters of both immediate and long-range Association policy, and preparation of a report of these deliberations for publication in the June number of the *American Psychologist*.

1. How can the APA help to invigorate basic psychological research? Rapid professionalization of psychology has forced the APA to devote much of its official energies to the solution of professional problems in recent years. Has this led to a neglect of other important problems for which the APA is properly responsible?

3. What role should the APA play in matters of public policy? How can psychologists, as a formal group, make their special skills and understandings useful to society at large?

The Board will welcome communications on any other problems, as well, that members feel should be considered at this time. Letters may be addressed to the Chairman.

ROBERT R. SEARS (*Chairman*)

DAVID SHAKOW
EDWIN R. GUTHRIE
RENSIS LIKERT
HELEN PEAK

Convention Calendar

AMERICAN PSYCHOLOGICAL ASSOCIATION

September 7-11, 1948; Boston, Massachusetts

For information write to:

Dr. Dael Wolfe, American Psychological Association
1515 Massachusetts Avenue, Washington 5, D. C.

SOUTHERN SOCIETY FOR PHILOSOPHY AND PSYCHOLOGY

March 25-27, 1948; Atlanta, Georgia

For information write to:

Dr. Joseph Weitz, Newcomb College, Tulane University
New Orleans, Louisiana

MIDWESTERN PSYCHOLOGICAL ASSOCIATION

May 7-8, 1948; St. Paul, Minnesota

For information write to:

Dr. Claude E. Buxton, Department of Psychology
Northwestern University, Evanston, Illinois

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

September 13-17, 1948; Washington, D. C.

For information write to:

Dr. John M. Hutzel, A.A.A.S.
1515 Massachusetts Avenue N.W.
Washington 5, D. C.

EASTERN PSYCHOLOGICAL ASSOCIATION

April 16-17, 1948; Temple University, Philadelphia

For information write to:

Dr. Harold G. Seashore, Psychological Corporation
522 Fifth Avenue, New York 18, New York

ROCKY MOUNTAIN BRANCH OF THE AMERICAN PSYCHOLOGICAL ASSOCIATION

May 7-8, 1948; Colorado State Teachers College,
Greeley, Colorado

For information write to:

Dr. Lillian G. Portenier, University of Wyoming
Laramie, Wyoming

NATIONAL VOCATIONAL GUIDANCE ASSOCIATION

March 29-April 1, 1948; Hotel Stevens, Chicago

For information write to:

Miss Christine Melcher, Exec. Sec'y, N.V.G.A.
82 Beaver Street, New York 5, New York

CANADIAN PSYCHOLOGICAL ASSOCIATION

May 27-29, 1948; Winnipeg, Manitoba

For information write to:

Dr. C. R. Myers
100 St. George Street
Toronto, Ontario

AMERICAN ORTHOPSYCHIATRIC ASSOCIATION

April 12-14, 1948; Hotel Commodore, New York

For information write to:

Dr. Nina Ridenour
1790 Broadway, New York 19, New York

AMERICAN ASSOCIATION ON MENTAL DEFICIENCY

May 18-22, 1948; Copley Plaza Hotel, Boston

For information write to:

Dr. Lloyd N. Yepsen, State Office Building
Trenton, New Jersey

WESTERN PSYCHOLOGICAL ASSOCIATION

June 17-18, 1948; San Francisco State College, San
Francisco

For information write to:

Dr. Lester F. Beck, Department of Psychology
University of Oregon, Eugene, Oregon

SOCIETY OF EXPERIMENTAL PSYCHOLOGISTS

March 26-27, 1948; Bryn Mawr College

For information write to:

Dr. Lyle H. Lanier, Secretary
Society of Experimental Psychologists
Department of Psychology, Vassar College
Poughkeepsie, New York

THE AMERICAN PSYCHOLOGIST

The Professional Journal of the American Psychological Association, Inc.

Volume 3

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Number 4

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Dael Wolfle, *Editor*

Helen Wolfle, *Managing Editor*

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SOME QUANTITATIVE ASPECTS OF *TIME* MAGAZINE'S PRESENTATION OF PSYCHOLOGY

R. R. BLAKE

The University of Texas

PUBLIC understanding of psychology depends in good measure upon the adequacy with which the layman is informed of its aims and accomplishments. This understanding must come in large part from newspapers and motion pictures, but neither of these media attempt to present scientific news in any systematic fashion. A more stable source of such information is the weekly news magazine which devotes considerable space to science reporting. Obviously, the reporting practices of *Time*, *Newsweek*, and similar publications play an important role in determining public interest in psychology.

It is of some interest, therefore, to examine the handling of psychology by a typical news magazine. Where does it get its information? Does it present a distorted picture by overemphasizing a particular field? Does it give sufficient contextual and background material to allow adequate evaluation of a piece of research? Does it report fairly and accurately?

The following study presents an analysis of psychological reporting in *Time* magazine from January, 1937, through June, 1947. The Education, Medicine, and Science sections of each of the 546 issues appearing during this period have been examined. A negligible number of psychological articles were reported under other headings.

FREQUENCY AND LENGTH OF ARTICLES

A total of 271 articles on psychology appeared during this period—approximately one article every two weeks (Table 1). The number published annually varied considerably, 44 appearing in 1938, 10 in 1942. Articles listed for 1947 represent a six-month period; they have been doubled to give a picture of the most probable trend for this year. The yearly totals, when plotted, have the general form of a U-curve, with the nadir during the years 1942-43. This is probably accounted for by the pressure of the important and dramatic events of

the war which were occurring during this period, coupled with the shortage of newsprint.

The 271 articles averaged approximately 460 words per report. The number of words is an approximation derived by measuring the amount of space allotted, and multiplying by a constant. Their average length tended to be greater during the years

TABLE 1
Number of psychological articles appearing in Time compared with Psychological Abstracts

YEAR	PSYCHOLOGICAL ARTICLES IN <i>Time</i>			PSYCHOLOGICAL ABSTRACTS	
	Number of articles	Average number of words	Per cent of all articles by year	Number of articles	Per cent of all articles by year
1937	27	469	11.3	6063	11.5
1938	44	390	18.4	6694	12.7
1939	22	588	9.2	6557	12.4
1940	28	410	11.7	6275	11.9
1941	22	506	9.2	5452	10.3
1942	10	448	4.2	5066	9.6
1943	19	443	8.0	4323	8.2
1944	23	592	9.6	3928	7.4
1945	26	415	10.9	3539	6.7
1946	18	477	7.5	4936	9.3
1947	32	376			
Total	271	455.	100	52833	100

when fewer were published, the rank difference correlation between length and number being $-.59$. While this trend is difficult to explain, it possibly reflects the reduced number of short reports of regional and national meetings during the war years.

Table 1 presents data from *Time* and comparable ones from the *Psychological Abstracts*. It appears that, with the exception of 1942, *Time* has reflected with some accuracy the varying productivity of publication in the psychological profession, the rank difference correlation between the frequencies in the two periodicals being $+.41$.

In psychological journals, articles occasionally run as long as 16,000 words. How does psychology

fare in *Time's* briefer articles, ones which are only about one-thirty-fifth as long? *Time* usually gives little or no background material, only the broadest aspects of design or method, and a succinct list of conclusions. Probably the chief limitation in these brief reports is the failure to present background material which would facilitate the reader's understanding of the *implications* of a particular research. The material tends to remain piecemeal and without perspective.

THE SUBJECT MATTER OF ARTICLES

Table 2 presents an analysis of the *content* of *Time's* articles, using the classification followed in the *Psychological Abstracts*. The subdivisions discussed below describe the three that were most frequently used. Do these areas of emphasis in *Time* reflect comparable ones in the *Abstracts*? For example, Functional Disorders is the most frequently used category in *Time*; is this also the most frequently used category in the *Abstracts*? Data from the *Abstracts* comparable to those for *Time* are presented at the right in Table 2. The table shows that articles appeared under each of the fourteen categories during this period. Very few articles were concerned with Mental Tests, Crime and Delinquency, and the General category.

Nearly one-fourth of the articles dealt with Functional Disorders. Many of these were case histories, with timely appeal but little systematic importance. While they were terse and well-written, it is unlikely that the average reader gained much understanding of clinical psychology from them.

The second most frequently used category, comprising 15 per cent of the total, was General Social Processes. Articles summarized ranged from Lewin's research on kinds of political organization to studies of propaganda analysis. For the most part, they were clearly presented, but lacked sufficient background material to permit the reader to integrate them into the broader area of social psychology.

Eleven per cent were concerned with Educational Psychology. These ranged from a discussion of the practical application of the concept of retroactive inhibition to a review of Traxler's *Techniques of Guidance*. In general, it appeared that they were about as well presented as were those for any single classification.

A comparison of the two publications suggests a high degree of correspondence between the fre-

quencies of articles under particular categories in either source. The rank difference correlation of $+0.79$ indicates that *Time* publishes most articles in

TABLE 2
*Comparison of psychological subject matter of Time
and Psychological Abstracts*

SUB-DIVISIONS	TIME			ABSTRACTS	
	Number of articles in <i>Time</i>	Word length per article in <i>Time</i>	Per cent of total number of articles in <i>Time</i>	Total number of articles in <i>Abstracts</i>	Per cent of total number of articles in <i>Abstracts</i>
1. General (including Statistics).....	7	354	3	4381	8
2. Nervous System.....	17	430	6	2609	5
3. Receptive and Perceptual Processes.....	21	405	8	5527	11
4. Learning, Conditioning, Intelligence (including Attention, Thought).....	19	351	7	3196	6
5. Motor and Glandular Responses (including Emotion, Sleep).....	15	589	6	4578	9
6. Psychoanalysis, Dreams, Hypnosis.....	16	697	6	1772	3
7. Functional Disorders.....	61	441	23	7558	14
8. Personality and Character.....	9	534	3	2194	4
9. General Social Processes (including Aesthetics).....	40	388	15	6016	11
10. Crime and Delinquency.....	6	470	2	1605	3
11. Industrial and Personnel Problems.....	12	455	4	3180	6
12. Educational Psychology (including Vocational Guidance).....	30	454	11	5621	11
13. Mental Tests.....	4	502	1	901	2
14. Childhood and Adolescence.....	14	514	5	3695	7
Total.....	271	455	100	52833	100

the same areas in which the *Psychological Abstracts* reviews the most, and conversely for the areas in which *Time* publishes fewest. This finding suggests that *Time's* articles reflect the same areas of emphasis as do the *Abstracts*. The significant discrepancy

between the frequencies of articles about Functional Disorders should be kept in mind, however, as it apparently represents a selective factor operating in *Time's* choice of articles for publication.

THE SECTIONS OF TIME MAGAZINE UNDER WHICH
DIFFERENT KINDS OF PSYCHOLOGICAL ARTICLES
ARE PRESENTED

Psychologists who think of psychology as a science might expect *Time* to present psychology under

TABLE 3
*Sections used by Time in presenting different
kinds of psychological reports*

SUB-DIVISIONS	PER CENT UNDER EDUCATION	PER CENT UNDER MEDICINE	PER CENT UNDER SCIENCE
1. General (including Statistics).....	72	—	28
2. Nervous System.....	25	45	30
3. Receptive and Perceptual Processes.....	6	11	83
4. Learning, Conditioning, Intelligence (including Attention, Thought).....	60	11	29
5. Motor and Glandular Responses (including Emotion, Sleep).....	—	28	72
6. Psychoanalysis, Dreams, Hypnosis.....	—	52	48
7. Functional Disorders.....	—	96	4
8. Personality and Character.....	31	38	31
9. General Social Processes (including Aesthetics).....	40	15	45
10. Crime and Delinquency.....	20	11	69
11. Industrial and Personnel Problems.....	36	10	54
12. Educational Psychology (including Vocational Guidance).....	100	—	—
13. Mental Tests.....	52	28	20
14. Childhood and Adolescence.....	58	32	10

Science, but casual reading suggests that this is not always done. This is a significant consideration because the reader is likely to categorize psychology in the same way that *Time* classifies it. For example, if all psychological articles were presented under the *Time* Education section, it would be reasonable for the *Time* reader to think of psychology as an adjunct of Education. How does *Time* handle this problem?

Table 3 shows that *Time* consistently (in over 50 per cent of the cases) classified articles concerned with Psychoanalysis and Functional Disorders, under Medicine; Receptive and Perceptual Processes,

Motor and Glandular Responses, Crime and Delinquency, and Industrial and Personnel Problems under Science, while Educational Psychology, the General category, Childhood and Adolescence, Mental Tests, and Learning, Conditioning, and Intelligence were presented under its Education section. Less consistency was found in its classification in the areas of Nervous System, Personality and Character, and General Social Processes.

While the complexity of psychology probably demands the use of these multiple categories, it is unlikely that psychologists would agree with *Time* in its particular classification of the different aspects of this field. However, it is also unlikely that they would universally agree with each other in this matter of appropriate classification, either. Thus, at least one of the major dilemmas within psychology is reflected by *Time's* handling of psychological subject-matter.

SOURCES OF ORIGINAL INFORMATION AND AUTHORS OF
THE ORIGINAL SOURCES USED BY TIME

Time's sources of psychological data are varied. Little systematic bias is exhibited except their predilection for the functional disorders. This is reflected in the titles of books summarized in its pages, which included Gluecks' *Crime and Punishment*, Brill's *Yearbook of Psychoanalysis*, Traxler's *Techniques of Guidance*, Steiner's *Where Do People Take Their Troubles*, Stoddard's *The Meaning of Intelligence*, Hinsie's *The Person In The Body*, and Maine's *If A Man Be Mad*.

With regard to the articles appearing since 1943, 26 per cent represent the analysis of books, 22 per cent abstracts of journal articles, 15 per cent reports of national and regional meetings, and 13 per cent news releases from different activities and organizations. The sources were not indicated for the remaining 24 per cent.

The journals which supplied articles included *The American Journal of Psychology*, *Journal of Parapsychology*, *Journal of Genetic Psychology*, *Character and Personality*, *Journal of Experimental Psychology*, *Journal of Educational Psychology*, *Journal of Abnormal and Social Psychology*, *Mental Hygiene*, *Journal of Comparative Psychology*, *Psychosomatic Medicine*, *Occupations*, *Scientific Monthly*, and *Science*. Only four journals contributed as many as two articles. It is possible that the meticulous *Time* reader might learn of the variety of sources in which psychological

(Continued on page 132)

PRIVATE CLINICIANS IN LOS ANGELES

EDWARD JOSEPH SHOBEN, JR.

State University of Iowa

ROBERT S. Woodworth, writing on the future of clinical psychology, once said,

At present many self-styled psychologists have no adequate equipment. Some of these are promising youngsters, about on a par with second-year law or medical students. Some have the training but not the personal qualifications for the work. Some are out-and-out charlatans. These practitioners have no moral right to the name of psychologist. A legal right they seem to have; any one can safely call himself psychologist, and the strange thing is that any one who so calls himself, with a little salesmanship, will be accepted as a bona fide psychologist by many intelligent persons who would draw a very sharp line between the qualified and the unqualified where their own professions were concerned (6).

It has been this point, of course, that has formed the basis for recent agitation among psychologists for adequate programs of certification and licensing (2, 8). However, there have been few attempts to make known the extent of quackery and lack of training within the field. It is the purpose of this paper to contribute some empirically derived information on the situation among clinicians practicing in Los Angeles.

PREVIOUS STUDIES

The general problem is by no means new. Yates (7) in 1930 reported an extensive study of fourteen psychological racketeers, itinerant faith-healers who moved from city to city, giving "courses," selling their books and pamphlets, and holding "clinics." These individuals were obvious quacks, exploiting the gullible and deriving sizeable incomes from the practice. Interestingly, this study documents the point made by Woodworth regarding the acceptance of charlatans in clinical psychology by people who would show a high degree of discrimination among the personnel of their own professions; Yates found that a number of engineers, dentists, and upper-bracket business men were victimized by her fourteen subjects as well as were the less educated and less intelligent, who, one would suppose, would be the most likely customers at these cut-rate sales of adjustment.

Kirkpatrick, a personnel executive with the RCA

Manufacturing Company, published a diatribe (1) in 1942 against pseudo-psychologists in industry. Presenting no data, he implied that the experience of top management with the untrained, the unqualified, and the unscrupulous had been widespread and that a number of executives had found themselves taken in by unsuccessful and illogical schemes for solving personnel problems by "psychological" methods. Warning against charlatans but encouraging industrialists to look for competent psychological consultants in industry, this article is a further presentation of the problem: Highly capable business heads have evidently not been immune to the sales talk of the psychological quack.

Steiner's study (5), published in 1945, is the most comprehensive investigation so far available. By posing as a prospective client, Mrs. Steiner contacted private clinicians operating through newspaper columns or radio clinics, in Lonely Hearts clubs, religious cults, spiritualistic organizations, and beauty salons specializing in the removal of inferiority complexes. The various clinicians came from all parts of the country and acted as personal advisers on all types of problems.

Dramatically pointing out the flagrant schemes sometimes carried on in the name of psychological science, Steiner, like Yates before her, selected her cases for investigation because they were obvious cases of quackery. Consequently, there is no indication in either of these two studies of whether or not the quacks they expose are anything more than minor blemishes on the face of a profession, the actual health of which is quite sound. The present study attempts to give a tentative answer to this important question.

METHOD

The present investigation was carried out by sending a questionnaire to 88 individuals who had listed themselves as clinical psychologists in the classified section of the Los Angeles telephone directory, or who had sent announcements of their having opened offices in the area to the Southern California Mental Hygiene Association, the psy-

chology department at the University of Southern California, or to others interested in the study, or who were known from various sources to be in private practice as clinicians, or who advertised in metropolitan newspapers. All medically trained personnel were excluded from the study, whether or not they were licensed to practice medicine in California. No effort was made to make an *a priori* separation of sheep from goats; questionnaires were sent to all people calling themselves psychologists and indicating that they did clinical work.

The questionnaire was accompanied by a cover letter, explaining that (1) the university clinic was overburdened with cases it was not equipped to handle and consequently had found it necessary to build up a referral list; and (2) the program for training clinical psychologists under VA auspices had made it mandatory that academic psychologists become more acquainted with what "people in the field" were doing.¹ Information about background and services was therefore requested and comments as to the training of clinical psychologists were invited.

If questionnaires were not returned within two weeks, an attempt was made to contact the potential respondents by telephone to encourage their sending the questionnaires in, and failing that, to obtain information through an unstandardized telephone interview. Forty replies were received with additional data obtained through telephone contact on thirteen.

RESULTS

The two primary questions to be answered by this study are (1) What do private clinicians in Los Angeles do? and (2) How well qualified are they to do it?

With respect to the first question, the answer is quite simple: They do psychotherapy. Fifty of the respondents—94 per cent—list counseling and psychotherapy among their services. The distribution of this and other services is shown in Table 1.

That the therapeutic techniques used are extremely varied can be readily seen in Table 2. Ob-

¹ The writer must confess to some guilt feelings about this cover letter. While it actually was hoped that the University Clinic would be able to develop a referral list, this purpose was definitely secondary to the main one of so masking the intent of the study as to bring in the greatest number of returned questionnaires.

viously, a number of these clinicians have many strings to their therapeutic bows, for there is much overlap among the various counseling devices reported as utilized. Psychoanalytic therapy leads the field, but poor and varied definitions by the

TABLE 1

Distribution of services of private clinicians in Los Angeles (N=53)

SERVICE	NUMBER CHECKING EACH FIELD	PER CENT
Counseling and Psychotherapy.....	50	94
Vocational Guidance.....	26	49
Speech Correction.....	7	13
Remedial Reading.....	7	13
Industrial Personnel Consulting.....	12	23
Diagnostic Testing.....	20	38

TABLE 2

Therapeutic techniques used by private clinicians in Los Angeles (N=50)

TECHNIQUE	NUMBER CHECKING EACH TECHNIQUE	PER CENT
Psychoanalytic Therapy.....	9	18
Hypnosis.....	7	14
Spiritual Philosophy.....	6	12
Jungian Analysis.....	6	12
Non-Directive Counseling.....	6	12
Program of Action.....	5	10
General Semantics.....	5	10
Courses in Personality Development.....	4	8
Diet Therapy.....	3	6
Play Therapy.....	3	6
Relaxation.....	3	6
Courses in Public Speaking.....	2	4
Group Therapy.....	2	4
Dream Analysis.....	2	4
Astrology.....	2	4
Narcosynthesis.....	2	4
Numerology.....	1	2
Common Horse Sense.....	1	2
Not Stated.....	5	10

respondents make it doubtful if there would be much agreement, in terms of what they actually do, among the clinicians practicing this type of remedial work. Such terms as "psychoanalysis," "psychoanalytic therapy," "counseling from a psychoanalytic point of view," and "Freudian emphasis" were used to characterize the techniques subsumed under this category.

The high incidence of hypnosis,² spiritual philosophy, and Jungian analysis is rather noteworthy, as is the prominence of general semantics as a therapeutic device and the occurrence of such things as courses in personality development, public speaking instruction, and diet therapy. From the studies of Yates and Steiner, one would have expected a somewhat higher proportion of astrologists and numerologists, but when these two categories are combined with that of spiritual philosophy, the occult seems well represented.

Seven respondents listed themselves as practicing speech correction and seven listed remedial reading. Five of the seven in each instance checked the questionnaire indiscriminately, probably to indicate that they could do anything that might bring them a referral. Only one of the seven self-styled speech correctionists reported having had any specialized preparation for his work, and none of the remedial reading practitioners listed any special preparation.

Vocational guidance was named as a service performed by 20 of the respondents. Only 18 employ interest tests and 17 employ tests of special aptitudes. In two or three cases, clinicians who listed vocational guidance among their activities indicated that they used no tests but did not excuse themselves on theoretical grounds by indicating a non-directive point of view that would minimize psychometrics (3).

Testing in general was minimized by these clinicians. Only 24—45 per cent—indicated that they used psychological tests at all. None of the respondents, including those who listed themselves as dealing especially with children, indicated that they used any of the pre-school scales, any of the performance tests like Arthur's or the Cornell-Coxe, or any of the personality inventories for children; achievement tests were also not listed.

Industrial personnel work, while checked on the questionnaire by twelve clinicians, did not constitute a major part of their work. Only one person indicated a specialty in this area; the other eleven seemed to have checked the item more to indicate something they felt they could do rather than something they were actually doing. The single specialist was an ex-naval engineer who was involved in the study because he also did vocational guidance.

Fees for these services ranged from three to twenty-five dollars per hour. The median was ten

dollars with the mean at nine. Since only five of the respondents indicated that they were holding other jobs concurrently with their private practice, it can be inferred that such services at such rates provide adequate incomes.

How adequately prepared were these clinicians to earn their income? Requests were made for information concerning their education and training. These criteria are deficient as touchstones of competence on many grounds. While it is probably true that the most direct route to trustworthiness and ability in clinical practice is a course of academic training and supervised experience comparable to that outlined by the APA at the present time, there are undoubtedly other roads to proficiency. Evaluations made from information such as that used in this study, therefore, are not judgments about ability as such, but are inferences about ability drawn from background data. Secondly, a number of these clinicians received their training at a time when no program such as that currently recommended by the APA was in existence. To evaluate an individual's background under these circumstances is to pass an *ex post facto* judgment which may be quite at variance with the actual truth about his competence. It is quite possible that some of these people, whose qualifications on paper are far below those presently demanded, will be certified in the near future by the American Board of Examiners in Professional Psychology, thus demonstrating an adequacy not revealed by the present inquiry. Nonetheless, the data given in Table 3 illustrate the inadequacy by modern standards of the clinicians in Los Angeles.

Attainment in terms of degrees earned is shown in Table 3. While 50 per cent have PhD's according to this tabulation, three cases can be eliminated from the doctoral category because of the peripheral nature of their doctoral training: two took their degrees at the Emerson University of Psychiatry, which flourished in Los Angeles prior to the war, and one took his at the College of Universal Truth in Chicago. If these three (instances) are ruled out, the number of PhD's practicing is reduced to 17 or 42.5 per cent.

The mere possession of a PhD from an accredited institution, however, does not mean that the individual is a trained clinical psychologist. As can be seen in Table 4, only a third of those holding doctor's degrees have them in psychology. Furthermore, of the six respondents holding the PhD in psychology, only three took their training in the

² With one exception, the seven practitioners of hypnosis were psychologically untrained.

clinical area. Therefore, we can say that out of 40 clinicians responding to the questionnaire, only 7.5

TABLE 3

Educational attainments of private clinicians in Los Angeles
(N = 40)

DEGREE CLAIMED	N	PER CENT
PhD*	20	50
MA	5	12.5
AB	5	12.5
No College Degree†	7	17.5
DC	2	5
OD	1	2.5

* Two of the individuals claiming PhD's took their degrees at the Emerson University of Psychiatry in Los Angeles and one other took his at the College of Universal Truth, Chicago. It seems legitimate to reduce the number of doctorates in the sample, therefore, to an N of 17 and a percentage of 42.5.

† Since neither of the chiropractors nor the osteopath reported any college training between high school and their chiropractic or osteopathic educations, the No College Degree category could be interpreted as made up of an N of 10 and a percentage of 25.

TABLE 4

Degrees held by subject matter

	N	PER CENT
PhD (N = 17)		
Psychology	6	35
Philosophy	4	24
Education	2	12
Law	1	6
Literature	1	6
Religion	1	6
Sociology	1	6
Speech	1	6
MA (N = 5)		
Psychology	1	20
Education	1	20
Speech	1	20
Religious Ed.	1	20
Not stated	1	20
AB (N = 5)		
Psychology	3	60
Engineering	1	20
Not stated	1	20

per cent claimed adequate educational backgrounds by present APA standards. The other three PhD psychologists gave no indication of having formally remedied their deficiency by post-doctoral study.

The respondents with master's and bachelor's degrees were analyzed according to subjects studied to see if Woodworth's category of "promising youngsters, about on a par with second-year law or medical students" would hold. Only one of the MA's had his degree in psychology; of the three AB's who had majored in psychology, only one was actively working toward an advanced degree. With the exception of the one person holding a master's in psychology,

TABLE 5

Occupational backgrounds of private clinicians in Los Angeles
(N = 40)

PREVIOUS EXPERIENCE	N	PER CENT
Public School Teacher	8	20
College Teacher	6	15
Social Worker	4	10
Personnel Interviewer	2	5
Vocational Counselor in Private Agency	2	5
Minister	2	5
Engineer	2	5
Court Psychologist	1	2.5
Hospital Psychologist	1	2.5
Artist	1	2.5
Farmer	1	2.5
Speech Rehabilitation Officer	1	2.5
Osteopath	1	2.5
Bank Teller	1	2.5
Lawyer	1	2.5
Musician	1	2.5
Plumber	1	2.5
Auditor	1	2.5
None	1	2.5
Not Stated	5	12.5

it would seem overly generous to consider this group as on a par with second-year law or medical students.

Seven persons claimed no college degree whatsoever. In addition two self-styled clinical psychologists had degrees in chiropractics to add to their high school diplomas, whereas one was trained in osteopathy after high school. This may be interpreted as boosting the number of clinicians without bona fide college degrees to 25 per cent.

In terms of occupational background (Table 5), education contributed the greatest number to private clinical practice with the applied psychological fields contributing very few, possibly because of the recency of their development. Fourteen clinicians have come from public school and college teaching, whereas only six have come from psychological duties

in courts and hospitals, industrial personnel departments, or vocational guidance agencies. Among those who came to private clinical work from college teaching, only two were instructors in psychology.

Twelve claimed membership in the American Psychological Association as either associates or fellows. One of these has never been listed in an APA roster and was not elected at the March, 1947 meeting, the last before this paper was written; another had officially resigned at the very time that he returned his questionnaire. This leaves only ten clinical psychologists, or 19 per cent, affiliated with the APA. Of these, three were trained secondarily in psychology, having primary training at the doctoral level in speech, sociology, and religion; four of the remaining seven belong to the APA because of work done in other than the clinical field of psychology.

Only seven of the group studied have contributed to the literature through the journals of the APA. Of these seven, six are APA members and one was formerly a member. Only three of them have published in the clinical field, the others reporting research in general psychology. Of the 40 questionnaires returned, 26 indicated some kind of publication. These included popular articles on "adjustment psychology," articles of an "inspirational" nature, novels, and technical publications in philosophy and religion.

ANECDOTAL MATERIAL

Much of the anecdotal material gathered in connection with this study duplicates the material which Steiner has already published. A few cases, however, were sufficiently interesting to merit attention.

One clinician, when called about his unreturned questionnaire, was highly indignant at having been asked for information about himself and his services, claimed that he "was as well known as any counselor in the United States and need(ed) no referrals," and stated that he had directed the clinic at Duke University for a time. A letter to Duke elicited the information that the man in question had not been at that institution as either a student or a faculty member since 1928. Since this individual is in his early thirties, it seems likely that his story is erroneous.

Another clinician, specializing in teaching hypnotic technique and in hypnotic treatment, had been an industrial X-ray engineer until 1945, when he became interested in hypnosis, read the literature,

and entered practice. He had no college degree and had never before studied psychology. He still has taken no formal training and is interested in none, nor has he had any supervision in the work by which he is currently earning his living.

A third was quite reluctant to send in his questionnaire and spoke of "the snobbery that exists between academic and non-academic psychologists." He has practiced in Los Angeles for sixteen years and has gained a good deal of popular acclaim as a lecturer to lay audiences. Without college training, he was a plumber for fifteen years prior to entering private practice as a clinical psychologist.

The most remarkable questionnaire returned was that of the consultant who runs the "spiritual and suicide clinic" in Los Angeles. Listing her professions as "prophetess, singer, and minister," this woman calls herself a "spiritual philosopher, a gift by birth," and operates with apparent success under a financial plan whereby her clients see her twice monthly for a year at a rate of \$150.00 for which they are entitled to "Business (counsel), Marital (counseling), Spiritual Consolence, Encouragement, and Truthful Guidance. A continual flow of Spiritual Blessings and Prayer."

A final case may be cited. The writer received a card announcing that this individual, listing himself as a PhD, was opening offices "for the practice of therapeutic psychology" in the Los Angeles area. His questionnaire indicated that he was a well known modern artist and an authority on art theory and the history of costume. In spite of three years of attendance at the University of Pennsylvania and one at the Sorbonne, he claimed no degree in the questionnaire although his announcement had shown him as possessing the doctorate. He appended a somewhat cryptic note to his educational history, reading, "Consolidation of A.B. degree locally . . . Ph.D. thesis, 'Some Aspects of Benedetto Croce's Theory of Expressionism' . . . Now . . . studying for Master of Fine Arts." In 1947, this individual joined forces with the hypnotist and the ex-plumber and one of the two chiropractors practicing as clinical psychologists to found an "institute of applied psychology" of which he is the director. Their brochure again bills him as a PhD and "an internationally known psychologist, artist, and writer . . . First acquainted with psychology as a patient, Dr. X knows the full meaning of 'anxiety' from personal experience."

CONCLUSIONS

It may be concluded with perfect safety that there is little relationship between the scope of services claimed by these clinicians and their reported backgrounds. Only three of the 53 subjects studied would qualify as clinical psychologists by modern professional standards.

All those in the sample, however, seem to be making quite acceptable incomes. From this point it follows that a large number of Los Angeles citizens are coming in contact with clinicians who are probably incompetent. Further, it is likely that a number of these people are being harmed or are recovering from their maladjustments in spite of their clinicians rather than because of them, despite the payment of rather high fees.

It remains to discuss the validity of these conclusions in the light of the sample studied. At least three clinical psychologists of acknowledged professional status did not respond to the questionnaire. However, the present sample probably represents the situation as no worse than it really is in Los Angeles, because the clinicians most likely not to return the questionnaires would be those whose qualifications would not hold up under the scrutiny of an "academic" psychologist. On the other hand, those clinicians who felt that they were practicing well within the limits of their training and experience would probably be most willing to cooperate in a survey of this sort. Consequently, it is felt that the conclusions regarding the sample do not represent the total situation in Los Angeles as worse than it is.

While it is not within the scope of this paper to make detailed recommendations as to the correction of this situation, redounding as it does to the detri-

ment of the general public as well as to psychology as a profession, it seems necessary to point out two things: First, since present legal provisions in most states make it impracticable to attack individual quacks, it is logical to attempt an active and widespread public education program, aimed at creating an awareness of the difference between a professional clinical psychologist and one who has appropriated the title in spite of lack of qualifications. Second, until such a public awareness has been developed, certification alone is an inadequate program. Certification means essentially that other psychologists approve of what a given psychologist is doing. It is doubtful if this would make any difference in terms of public patronage of quacks. A licensing procedure similar to that governing the practice of medicine is very much needed both for the increased professionalization of clinical psychology and the protection of the public from those "practitioners [who] have no moral right to the name of psychologist" (6).

REFERENCES

1. KIRKPATRICK, F. H. Psychological racketeers. *Personnel J.*, 1942, **20**, 283-286.
2. KUHLMAN, F. Certification and licensing of psychologists. *Amer. J. Psychol.*, 1943, **56**, 120-129.
3. ROGERS, C. R. Psychometric tests and client-centered counseling. *Ed. Psychol. Measmt.*, 1946, **6**, 139-144.
4. SHAKOW, D., *et al.* Graduate internship training in psychology. *J. consult. Psychol.*, 1945, **9**, 243-266.
5. STEINER, LEE R. *Where do people take their troubles?* Boston: Houghton Mifflin Co., 1945. Pp. 265.
6. WOODWORTH, R. S. The future of clinical psychology. *J. consult. Psychol.*, 1937, **1**, 4-5.
7. YATES, DOROTHY H. *Psychological racketeers*. Boston: The Gorham Press, 1930. Pp. 232.
8. Symposium on certification and licensing. *J. consult. Psychol.*, 1941, **5**, 49-79.

TIME'S PRESENTATION OF PSYCHOLOGY (Continued from page 126)

investigations are presented by careful attention to the mention of sources used in writing the *Time* articles.

During this period, *Time* cited over 150 original authors. E. L. Thorndike, Arnold Gesell, J. B. Rhine, Leta Stetter Hollingworth, Stella M. C. Center, and W. E. Blatz received multiple mentions, but no author was referred to more than seven times. Apparently *Time* has no preferred list of authors.

SUMMARY

Time's emphasis in presenting psychology roughly parallels the work done in the various fields, as measured by the number of articles appearing in *Psychological Abstracts*. Those areas most fre-

quently reported by *Time* tend to be the ones for which most articles are reviewed by the *Abstracts*. This is also true on a year-to-year basis, *Time* reporting more articles during the years when more were reviewed by the *Abstracts*. No systematic bias such as preferred authors or subject matter is found in *Time's* reporting, except for its emphasis in the area of Functional Disorders. While *Time's* reports are terse and well-written, they lack background and contextual material. This lack probably makes it difficult for the average reader to fit these reports into any very meaningful framework, and constitutes the chief limitation in *Time's* handling of psychological work.

AN ANALYSIS OF PSYCHOLOGISTS IN THE CLASSIFIED TELEPHONE DIRECTORY

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IT HAS been accepted practice for many individuals to turn to the Classified Telephone Directory when wishing to locate representatives of a certain occupational group. The phrase, "Use the Yellow Pages of Your Telephone Directory," has grown into a near national slogan. How valid is such advice in the field of commercial psychological services? To find the answer to this question, telephone directories of a number of major American cities have been carefully scanned.

In the classified section, it seems impossible to evaluate the capabilities of one firm or individual as against those of another in terms of any criteria selected. Bold box type advertisements, some using large and small size letters, or light and dark type, arrest the reader's attention. Various kinds of degrees are attached to names, many of them confusing and misleading. It is difficult to distinguish between a PhD representing a short mail order course in such a field as Metaphysics, and the genuine article granted after many years of serious study in an accredited university. Seldom are there any references to membership in professional organizations, or other data generally associated with sound professional service.

In the most recent issue of the Classified Telephone Directory for a large Ohio city, six firms or individuals are represented. In one instance the person and his firm are listed separately. An advertisement at the head of the list stands out particularly. It announces "Specialized Practice" and then proceeds to enumerate the various "specialties," namely, "Psychological Analysis, Personality Adjustment, Family Relations, Vocational Counseling, Section for Children, Behavior Problems, Parental Guidance." This "specialist" holds no formal degree in psychology. Several of the same individuals or their firms, not content with listings in the Psychology section alone, appear elsewhere in the classified columns as Personnel Consultants, Vocational Counselors, Marriage Counselors, or Management Engineers. One talented individual is also listed as a

Registered Masseur! Different names and subdivisions of firms are utilized, complete with separate telephone numbers, but often they turn out to represent the same "psychologist," merely enumerating his diverse talents.

Of the six persons listed as Psychologists in the Classified Telephone Directory for this Ohio city, only one holds the PhD degree, and but two are represented in the most recent APA Yearbook. There is one DEd and three others hold a BA degree in psychology. The sixth claims to be, and advertises himself as, a "Doctor of Psycho-Analysis." His degree was granted by a known mail-order diploma mill. At least four other firms offer Vocational or Personnel Consultation. None of these has a psychologist directly on its staff. There are ten additional companies advertising their services as Management Engineers. It appears that only two have working arrangements with industrial psychologists. At least one such agency has neither a psychologist nor a graduate engineer on its staff, yet is actively engaged in psychological personnel selection.

A perusal of telephone directories for cities both larger and smaller than the one selected indicates that the practices cited here hold true generally. At the present time, it appears therefore that a large number of advertisements concerning commercial psychological services in the Classified Telephone Directory are neither valid nor reliable. The client has little or no assurance of "buying" sound professional service. Advertisers with the most diverse claims and largest space are not necessarily representative of the most ethical practices available within their city.

It appears as though little can be done through legal channels to combat unethical practices and claims effectively. Unfortunately, the very term "Psychologist" has not been properly defined in most states. Fowerbaugh¹, in a study of the legal

¹ Fowerbaugh, H. Legal status of psychologists in Ohio. *J. consult. Psychol.*, 1945, **9**, 196-200.

status of psychologists in Ohio, found that almost anyone could open an office on the nearest street corner and advertise as a "Psychologist"; the only restriction in Ohio, as in many other states, is that he must not violate any of the sections of the Ohio Medical Practices Act, originally passed by the legislature in 1811. It is not a violation of existing law to make any kind of extravagant claim or promise, provided no representation to practice medicine or one of its limited branches is included therein. That more unscrupulous individuals have not taken advantage of such loose legal codes seems surprising indeed.

It is hoped, of course, that the long-range plans of the American Psychological Association towards certification in the various specialties of professional psychology will establish guideposts for the general public. Certainly a title such as "Certified Psychologist" should be an indication of professional competence to those desiring psychological services. American Psychological Association members might identify themselves as such. This practice has been instituted in at least one large Western city and appears to work satisfactorily. It could well be instituted elsewhere as a means of separating the wheat from the chaff. A local registry for professional psychologists, similar in nature to medical registries, would also be of aid in a program of public education. We should realize, however, that such measures are essentially defensive in nature. What is really needed is a spirited offensive and it now appears that there is at least one opportunity for constructive action.

In most of America's major cities and towns the Classified Telephone Directory is published by the Reuben H. Donnelley Corporation. Advertising for

its pages is solicited by their salesmen and copy is generally accepted and printed as prepared by the individual or firm advertising its services. No investigations of customer claims are made, and unless complaints are received, advertisements are published regularly on a semi-annual basis. In order to protect both itself and the public it serves, the Reuben H. Donnelley Corporation has inserted a clause in its contract with the advertiser which releases the Corporation from any obligation of actually publishing the advertisement in the Classified Telephone Directory, even though the fee may have been paid in advance. If, upon proper representation, it can be shown that certain claims are unjustified, or injurious to the public welfare, they will be deleted from subsequent issues of the Directory.

It appears then that there are some specific measures local psychologists can initiate through their professional organizations. They can recommend that members of their group who desire to advertise services in the Classified Telephone Directory mention their professional association as well as list degrees and specialties. Such action in itself would serve to differentiate their practices, but there is a more potent step the local organizations can take. With the aid of the local Better Business Bureau, they can investigate the validity of claims made by other advertisers in the section on "Psychology." If it is found that specific advertisements are misleading, the group can inform the Reuben H. Donnelley Corporation of this fact and request that proper action be taken. Limiting the scope of unqualified practitioners is not only in the interest of the public but is of vital importance to the maintenance and continued development of our professional standards.

THE PUBLIC'S ATTITUDES TOWARD PSYCHOLOGISTS

LESTER GUEST¹

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PSYCHOLOGISTS have in the past carried on numerous studies of attitudes; attitudes about the church, about birth control, about racial discrimination, and the like. During the war years, public opinion studies contributed greatly to an understanding of problems of the home front. Now psychologists are interested in trying to determine the amount and kind of information people have concerning issues related to peace. However, either from modesty or some other reason, they have been loath to attempt an evaluation of themselves. The general public gets ideas of the duties and daily activities of psychologists from such questionable sources as movies, newspaper columns, and even the funny papers. Needless to say, it is unlikely that these sources present an unbiased and representative sample of the work of the large majority of psychologists.

If psychologists are to attain dignity and respect in the eyes of the general public in order to fulfill their objectives and obligations, it is mandatory that they first find out what people know about them, what attitudes about psychologists exist, and the sources of information that lead to these attitudes and ideas. This study was designed to investigate these factors.

The study is not definitive for several reasons. Foremost among them was the fact that it was done as a project in a course in Market Research at The Pennsylvania State College. The questionnaire was in part constructed and pretested by the class; the interviewing was done by these relatively unskilled students in their home towns during Christmas vacation, 1946, and the sampling was one of convenience. Even with these limitations, the results may have some meaning and value to our profession.

PROCEDURE

A total of 311 personal interviews with adults was conducted in various areas of New York,

Pennsylvania, New Jersey, and Illinois. No attempt was made to secure a representative sample of any particular universe. On the contrary, there was an attempt to weight equally the four conventional socio-economic groups to facilitate comparisons. About one-half the interviews were done with each sex; but no attempt was made to control the variables of age or educational background. Of course, since the latter is positively correlated with socio-economic status, some indirect control of this variable was exercised.

The questionnaire was divided into three parts. The first section, consisting of multiple-choice items, the choices being constant, attempted to determine which of several professional persons would be consulted for certain services. With the exception of the first question, which was inserted to create rapport, all these were concerned with types of psychological duties, e.g., personnel selection, attitude surveying, and vocational guidance. Other questions pertained to the scientific recognition or social approval of psychologists. Throughout the first section, an attempt was made to disguise the point that the study was directly concerned with the profession of psychology.

The second section was devoted to specific free response questions about the duties of psychologists. Questions were also asked regarding sources of information and references that would be consulted to locate a psychologist if one were needed.

The final section consisted of a series of statements about psychologists and their qualifications, to which the respondent could signify agreement or disagreement. The last question asked the respondent to differentiate between a psychologist and a psychiatrist. Accessory data on age, socio-economic status, sex, and address were obtained. Although fractionations by socio-economic status and age were made, in the interest of brevity only results from the total sample ($N = 311$) are presented.

¹ On leave from the Pennsylvania State College.

RESULTS

The results obtained from the multiple-choice questions are presented in Table 1. Comparison figures for the alternate choice questions should be interpreted in the light of the limitation of choice. If free response questions had been used, the results might have been different. However, it was desired in this situation to allow the respondent every possible advantage to show any association he had between the type of activity mentioned and the occupation of psychologist.

were considered to be scientists more often than the other professions listed.² The results from Question 6 reveal that psychology is not regarded as a particularly desirable occupation; almost one-third of the respondents would prefer their offspring to avoid the pursuit of psychology as a vocation. Although the results of a question concerning reasons for this attitude were not tabulated, casual analysis of answers would indicate that many respondents did not think the job of psychologist would be lucrative, likely to carry prestige and social approval, or lead

TABLE 1

	ARCHITECT	CHEMIST	PSYCHOLOGIST	ENGINEER	ECONOMIST	DON'T KNOW
	<i>Per Cent</i>	<i>Per Cent</i>	<i>Per Cent</i>	<i>Per Cent</i>	<i>Per Cent</i>	<i>Per Cent</i>
1. If you wanted to have plans for a new home drawn, would you go to an: . . .	89.4	*	.3	6.1	1.0	3.2
2. If you wanted advice about what sort of a job your child should get ready for, would you go to an:	1.9	*	60.8	10.3	12.2	14.8
3. If you wanted to get an attitude survey done, would you go to an:	2.6	*	38.9	16.7	27.0	14.8
4. If you wanted help in choosing workers for some job, would you go to an: . . .	3.5	*	25.4	26.7	30.0	14.8
5. Would you look at this list and tell me which kinds of people you think should be called scientists and which should not be called scientists.	23.8	92.3	55.0	48.9	26.7	13.8
6. Suppose that a child of yours couldn't decide which of these jobs he would like best. Which one on the list would you like <i>least</i> for him to be? . . .	8.0	12.9	29.3	9.3	26.7	13.8
9. In a purely social situation, i.e., non-job situation, which of the people on that list would you feel most ill-at-ease talking with?	6.4	11.9	40.2	10.6	16.4	14.5

*Not asked in these questions.

The answers to the first question indicate that there were either a few practical jokers or extremely ill-informed persons (psychologist and economist to draw house plans), but comments by interviewers indicated that the number of pranksters was small. It will be seen (Q. 2) that a large number of persons were aware of the fact that psychologists were involved in vocational guidance, but on the other hand, that almost as many persons believed that economists conduct attitude surveys as psychologists (Q. 3).

A larger percentage of persons would consult either an engineer or economist rather than a psychologist in choosing workers for a job (Q. 4). Question 5 indicates that, next to chemists, psychologists

to a normal existence. There is no question but what a large proportion of persons say they feel ill-at-ease in the presence of a psychologist even in a purely social situation (Q. 9).

Questions 10, 11, 12, and 13 were all free response questions specifically asking for information about psychologists. The results are presented in Table 2, along with the results from a question concerned with the overall impression gained by people from their sources of information (Q. 14).

For questions 10-13, the percentages given at the

² A recent study of the public's reactions to jobs and occupations conducted by NORC reveals that scientists rate rather high in public esteem and psychologists fare reasonably well. See *Opinion News*, Sept. 1, 1947, 3-13.

far left represent the frequency of response in the various categories. The headings and sub-headings are the author's terminology rather than that of respondents. The total percentage adds up to more than 100 because interviewers were instructed to probe for more than one answer in each of the free response questions. Only first and second answers were tabulated. If all respondents had given two answers, the total percentage would sum to 200. Therefore, the difference between the total and 200 per cent represents the percentage of persons who gave no second response to the question.

Although the interviewers were told to probe, they often neglected to see the implications of an answer, and thus, at times, their probing was ineffective. Therefore, it was not always possible adequately to classify some responses into subordinate categories. In these cases, responses were put into a category called "unspecified".

One important conclusion that can be drawn from the answers to Questions 10 and 11 is that many people have some idea that psychologists deal with mental problems, both intellectual and personal, but that few know of the psychologists' work in other areas, particularly in business and industry. The public seems to think that the psychologist deals only with abnormal individuals, and that professional work with normal individuals is beyond his province. Although results are not presented there is evidence from the final question asked that people make little or no distinction between psychologists and psychiatrists and their respective areas of responsibility. It may be that many people answered all the questions with the profession of psychiatry in mind rather than that of psychology.

It is clear from the responses to Question 12 that over one-half of the respondents would turn to other people for information concerning the natural habitat of psychologists, and particularly, to the medical doctors. It is rather disturbing to note the percentage of persons who would turn to the telephone book as a reference, especially in view of the type of "psychologist" usually found in this source.

It appears from Question 13 that about the same number of individuals get their ideas about psychologists and their activities from reading and from hearing others talk. It is unfortunate that many interviewers were not aware of the implications of some of the responses, but the reader may hazard some hypotheses from the breakdowns made pos-

TABLE 2

10. From what you have heard, read, or seen, what does a psychologist do, i.e., what types of work does he carry on?

<i>Per Cent</i>	<i>Per Cent</i>
58.2	Clinical
	Unspecified.....
	Child problems.....
	Delinquency—crime.....
	Mental disorder.....
	Marital problems.....
	Occup.—vocat.—stud. counseling.....
	58.2
4.9	Applied, Business, Industrial
45.3	Research and Study
	People in general.....
	Human behavior.....
	The mind.....
	Mental disorder.....
	Psychoanalysis—psychiatry.....
	Personality.....
	45.3
1.9	Teaching
13.8	Miscellaneous
21.6	Don't know or confused
145.7	

11. Would you ever suggest that someone go to see a psychologist? For what?

<i>Per Cent</i>	<i>Per Cent</i>
84.1	Clinical
	Unspecified.....
	Marital problems.....
	Occupation—vocational guidance.....
	Mental disorder.....
	Social difficulties.....
	Child problems.....
	Feeble-mindedness.....
	General nervousness.....
	Personality disorders.....
	84.1
1.6	Industrial & Business Problems
.3	Mind Reading, Fortune Telling, etc.
1.0	Psychoanalysis
1.6	Miscellaneous
39.3	Would Not Suggest or Don't Know Why
126.3	

12. How would you find a psychologist if you needed one for something?

<i>Per Cent</i>	<i>Per Cent</i>
33.1	Institutions
	Unspecified.....
	Hospital.....
	Church.....
	Better Business Bureau.....
	College or Medical School.....
	Schools (not college).....
	Employer.....
	Health Department.....
	33.1

TABLE 2—Continued

51.5 People	
Unspecified.....	8.0
Doctor.....	36.7
Lawyer.....	1.3
Personnel man.....	.3
Telephone operator.....	1.0
College teacher.....	2.9
Friend.....	1.3
	51.5
25.5 Advertising & Listings	
Unspecified.....	2.3
Newspaper.....	.6
Telephone book.....	19.0
City directory.....	2.6
Medical directory.....	1.0
	25.5
11.3 Miscellaneous	
20.3 Don't Know or no Answer	
141.7	
13. People have certain ideas about psychologists. Where do you think you have gotten most of your ideas about them and the type of work they do?	
<i>Per Cent</i>	<i>Per Cent</i>
52.6 Reading	
Unspecified.....	28.6
Magazines.....	7.7
Readers Digest.....	6.1
Time.....	1.3
"Popular Psych.".....	.3
	—
Newspapers.....	9.9
"Psych. columns".....	.6
Unspecified.....	9.3
Books.....	6.4
	52.6
9.0 Seeing Movies	
Unspecified.....	7.4
"Spellbound".....	1.6
	—
	9.0
56.6 Hearing	
Unspecified.....	24.1
Friends.....	4.8
Doctors.....	1.0
School men.....	5.8
Radio.....	11.6
Unspecified.....	10.6
Mr. Anthony.....	1.0
Class in school.....	7.7
Organized meetings (PTA, etc.).....	1.6
	56.6
3.2 Experience (includes armed services)	
14.5 Miscellaneous	
12.6 Don't know or no answer	
148.5	

TABLE 2—Continued

	<i>Good</i> <i>c_o</i>	<i>Poor</i> <i>c_o</i>	<i>Don't</i> <i>Know</i> <i>c_o</i>	<i>Can't</i> <i>Tell</i> <i>c_o</i>
14. Do you think that you got a good or poor impression about psychologists' from these sources?	61.7	15.1	19.3	3.9

sible by those who did press for more specific responses.

The results of Question 14 show that almost two-thirds of the respondents thought that their sources of information about psychologists created a good impression, but these results are hard to interpret.

TABLE 3

I am going to read a few statements about psychologists. Will you tell me whether you agree or disagree with each one. For example:

	AGREE	DISA- GREE	DON'T KNOW	NO ANSWER
	<i>Per Cent</i>	<i>Per Cent</i>	<i>Per Cent</i>	<i>Per Cent</i>
15. Psychology should be taught in every high school	65.3	20.3	12.9	1.6
16. A person has to be licensed in order to call himself a psychologist.....	59.2	18.3	21.2	1.3
17. Psychologists as a group are more odd or unusual people than chemists or engineers.....	37.9	45.0	14.5	2.6
18. Public schools often need the services of a psychologist.....	75.6	8.7	13.2	2.6
19. Psychologists are usually wrapped up in their own ideas and theories and aren't very practical.	27.7	52.1	18.6	1.6
20. Psychologists can read other persons' minds.	25.7	59.2	13.2	1.9

Table 3 presents the results from a series of questions about psychologists and their duties. Psychologists might disagree as to the proper answer to some of these questions and would perhaps find them difficult. People in general give the above results.

The results from Question 16 show that over one-half of the people queried believed that psychologists have to be licensed. If their opinion is as widespread as it appears, it is no wonder that some tainted attitudes about psychologists exist. Questionable advice given by anyone carrying the moniker 'psychologist' might lead to a general

mockery and condemnation of all who claim to be psychologists.

In support of the results previously cited about psychologists as ordinary persons (Question 9), answers to Question 17 show that 38% openly stated that they believe psychologists are queer. If the opinions of the 14% who answered "Don't know" had been obtained, this figure might be even higher. Some conflicting evidence is offered in Question 19.

The breakdowns for age, i.e., into younger people vs. older people, although not presented here, indicate that, on the whole, younger persons think more kindly of psychologists, and are better informed about their activities. However, there is good indication that young people have much to learn, in spite of the fact that they probably have had more schooling than older people, and that they probably were taught a more modern conception of psychology.

When the total sample was divided into a high and low socio-economic classification, it was found that, in general, the top group was better informed,

and would be more likely to get legitimate psychological help than the lower groups would.

SUMMARY

The data cited are merely suggestive, but they do serve to point up issues regarding possible public relations policies of psychologists. Although some psychologists have indicated that they thought that the results imply a moderately favorable attitude toward them and their profession, there is still a need to publicize the variety of duties that psychologists perform. Indeed, there is a need to inform the public regarding sources where they will be likely to find a reputable psychologist. This program depends upon each psychologist as an individual as well as the American Psychological Association as the official body. (See *Amer. Psychologist*, 1948, **3**, 35-36.) Changing undesirable attitudes and implanting more knowledge of the work of psychologists will not be easy, but this area is one in which psychologists are well qualified to function.

Across the Secretary's Desk

(Continued from page 141)

APA office for candidates, but goes elsewhere. At the other extreme, the employer wishing an illustrious research professor does not ordinarily expect him to turn up in the files of the personnel placement service.

Last year the APA received 473 requests. In about 40 of these, it was impossible to determine just what educational attainment the employer expected of the applicants. In 360 cases the employer gave this information explicitly. In another 59 cases I assumed that the PhD was demanded; for example, if the position required supervision of persons for whom the PhD was a known requirement, I assumed that the applicant himself should have the PhD.

The distribution of desired education levels is given in the table. The categories quoted are the ones actually used in the job requests.

In 1947 there were 9 requests for candidates with AB training only; the APA has never received more than a sprinkling of these. In fact, there were only 24 requests for people with less than an MA. While there were 103 requests for MA's, the big peak was at the PhD level with 219 job requests in the last two categories of the table.

Graduate students who expect to receive the PhD in June or August are invited to register with the personnel placement service of the APA so that their names can be referred for positions to be filled this summer and fall.—DAEL WOLFLE.

Across the Secretary's Desk

REQUIREMENTS FOR MEMBERSHIP IN THE DIVISIONS OF THE AMERICAN PSYCHOLOGICAL ASSOCIATION

Each division of the APA has the right to establish its own requirements for membership as long as those requirements are not lower than those set by the APA as a whole. The division requirements as of March, 1948 are stated below.

The expression "APA requirements only" means that election as an Associate or Fellow is based solely on meeting general APA requirements and applying to the division. Where special requirements are given, it is to be understood that the general APA requirements must also be met, but the two requirements are not necessarily additive. For example, when the requirement of Division 16 reads "Four years of experience as a school psychologist," this experience can also be applied toward the basic APA requirement.

Some divisions provide for a class of Division Affiliates. Specific requirements are not stated below, but the existence or non-existence of this class is indicated for each division.

1. Division of General Psychology
Fellows—APA requirements only
Associates—APA requirements only
Affiliates—Yes
2. Division on the Teaching of Psychology
Fellows—Being actively engaged in teaching in a recognized institution
Associates—Being actively engaged in teaching in a recognized institution
Affiliates—No
3. Division of Theoretical-Experimental Psychology
Fellows—Acceptable published research in the field of theoretical and experimental psychology
Associates—APA requirements only
Affiliates—Yes
5. Division on Evaluation and Measurement
Fellows—Either acceptable published work in the field of evaluation and measurement beyond the doctor's degree, or distinguished professional service in the field of evaluation and measurement
Associates—One year of acceptable training in research or practice in the field of psychological measurement
Affiliates—Yes
6. Division of Physiological and Comparative Psychology
Fellows—Being actively engaged in teaching and/or research in the fields of physiological and/or comparative psychology
Associates—Being either in training or in practice in the fields of physiological and/or comparative psychology or fields of closely allied interest
Affiliates—Yes
7. Division on Childhood and Adolescence
Fellows—APA requirements only
Associates—APA requirements only
Affiliates—Yes
8. Division of Personality and Social Psychology
Fellows—Special requirements not yet formulated
Associates—APA requirements only
Affiliates—No
9. The Society for the Psychological Study of Social Issues—A Division of the APA
Fellows—Special requirements not yet formulated
Associates—Special requirements not yet formulated
Affiliates—Yes
10. Division on Esthetics
Fellows—Significant research contributions of direct value to esthetics and related areas
Associates—Interest in the field of esthetics and related areas
Affiliates—No
12. Division of Clinical and Abnormal Psychology
Fellows in Clinical Psychology—Not less than four years of successful full time clinical practice, or its accumulated equivalent, yielding the presumption of professional competence in clinical psychology
Fellows in Abnormal Psychology—Either acceptable published research in abnormal psychology beyond the doctor's degree, or four years of acceptable professional experience in abnormal psychology subsequent to the granting of the doctor's degree
Associates—Satisfactory evidence of not less than two years of successful full time clinical experience, or its accumulated equivalent, such as to yield a presumption of reasonable competence in clinical psychology, or satisfactory evidence of two years of experience in professional work

that is psychological in character in the field of abnormal psychology

Affiliates—Yes

13. Division of Consulting Psychology¹

Fellows—Four full years of paid consulting experience subsequent to the granting of the doctor's degree

Associates—None admitted

Affiliates—No

14. Division of Industrial and Business Psychology

Fellows—Either four years of acceptable professional experience subsequent to the granting of the doctor's degree, at least two of which shall be experience in the application of psychology in business, industry, public service, or allied vocational fields, or significant published research beyond the doctor's degree and of direct value to the application of psychology in business, industry, public service, or allied vocational fields

Associates—APA requirements only, except that, if admission is sought on basis of one year of graduate work and one year of experience, the experience must be in the application of psychology in business, industry, public service, or allied fields

Affiliates—No

15. Division of Educational Psychology

Fellows—Active interest in educational psychology

Associates—Active interest in educational psychology

Affiliates—Yes

16. Division of School Psychologists

Fellows—Four years of experience as a school psychologist

Associates—An MA or higher degree and two years of acceptable experience as a school psychologist, or be active in teaching or administration of psychology applied in schools, or in training school psychologists, or have made significant research contributions to the practice of psychology in schools

Affiliates—No

17. Division of Counseling and Guidance Psychologists

Fellows—At least two years of professional experience in a counseling or guidance activity or

organization wherein they had individual responsibility for full case work or research

Associates—Employment in a counseling or guidance activity or organization

Affiliates—Yes

18. Division of Psychologists in Public Service

Fellows—Active interest in the application or study of psychology in the public service

Associates—Active interest in the application or study of psychology in the public service

Affiliates—No

19. Division of Military Psychology

Fellows—Satisfactory evidence of accomplishment in military psychology

Associates—Satisfactory evidence of accomplishment in military psychology

Affiliates—No

20. Division on Maturity and Old Age

Fellows—Active interest in the work of the division

Associates—Active interest in the work of the division

Affiliates—Yes

WHAT EDUCATIONAL LEVELS DO EMPLOYERS REQUEST?

The demand for well-trained psychologists continues. An analysis of last year's job requests to the APA office, in terms of the educational level requested, shows that the PhD applicant is most in demand.

TABLE 1

<i>Desired Educational Level</i>	<i>Number of Requests</i>
AB.....	9
Some graduate training.....	4
One year of graduate training.....	7
Prefer MA.....	4
MA.....	103
MA plus additional training.....	6
Two years of graduate training.....	11
Three years of graduate training.....	1
Prefer PhD.....	47
Work nearly completed for PhD.....	17
PhD.....	160
Did not state specifically, but implied a PhD.....	59

How representative this sample of psychological positions is, of course, a matter for consideration. It may well be that the employer who hires psychologists at the AB level does not apply to the

(Continued on page 139)

¹ These requirements are quoted from the published statement of January, 1947; the division has not replied to a request for more recent information.

Psychological Notes and News



JOHN F. DASHIELL

John F. Dashiell is the retiring editor of the *Psychological Monographs*. This publication has been merged with the *Applied Psychology Monographs* and with the *Archives of Psychology* under the title: "Psychological Monographs: General and Applied." Dr. Dashiell has written the following account of his years (1936-1948) as editor:

"The papers published have in the majority of cases been doctoral dissertations. A majority too have been experimental in character, although in the last few years more of the clinical and of the industrial-personnel types have been accepted. This reflects a widening of interests which I think makes the merging under one broad title of the two monograph series a definitely appropriate action. . . .

"About one thing I feel definite. It is that a period of editorship as long as mine is much too long. There are so very many competent workers now that the loads, the responsibilities, and the pleasures thereof should be spread as much as possible."

The Board of Directors of the American Psychological Association has appointed **John T. Wilson**

as assistant to the Executive Secretary. He will begin his new duties on August 1st after receiving his PhD at Stanford University, where he has held a Rockefeller pre-doctoral fellowship. During the war years he served in the headquarters of the Commander-in-Chief of the U. S. Navy as director of the radar personnel and training program.

Alvin C. Eurich is now acting president of Stanford University, having formerly served in the capacity of vice-president.

Harvey J. Tompkins has been appointed head of the neuropsychiatric service in the Veterans Administration Department of Medicine and Surgery. Dr. Tompkins succeeds **Daniel Blain**, who resigned to become Medical Director of the American Psychiatric Association. Dr. Blain will continue to serve VA in an advisory capacity.

Elias Katz, instructor at the College of the City of New York, is offering a new course entitled *Motion Pictures for Mental Hygiene*. The course consists of showing and discussion of available films for use in the treatment of mental patients, films for training professional workers in this field, and films on mental hygiene concepts for the general public.

Jerry W. Carter, Jr. has been appointed Scientist (R) in the USPHS for work in the Mental Hygiene Division in Washington, D. C. Dr. Carter served until recently as VA Branch Chief Clinical Psychologist in Kansas City. He is on leave from his position as director of the Wichita Guidance Center.

Joseph E. Brewer has been appointed acting director of the Wichita Center. **David Wall** joined the staff on January 5th as a parttime psychiatrist.

B. F. Skinner has been elected professor of psychology at Harvard beginning with the 1948 fall term. He has been head of the department at Indiana University since 1945. Before that he was an associate professor at the University of Minnesota.

Brent Baxter was recently appointed assistant to the vice-president in charge of personnel for the

Chesapeake and Ohio Railway Company at Cleveland. He is responsible for the Personnel Administration Division.

Duane C. Shaw is now serving as assistant professor of psychology and education at the Carnegie Institute of Technology.

Robert B. Ammons has been appointed assistant professor of psychology at Tulane University. He was formerly at the University of Denver.

Muzafer Sherif has been appointed a research fellow in the department of psychology at Yale University for the year 1947-48. He is working on a Rockefeller Foundation grant to study concept formation and learning.

Samuel P. Hayes, Jr., on leave from Dun and Bradstreet, Inc., is serving in the State Department as special assistant to the Assistant Secretary of State for Economic Affairs.

Karl M. Dallenbach of Cornell University will be on sabbatical leave during the spring term. He will lecture at Tulane University for a short time, and then he plans a trip to China and Japan where he will lecture at leading universities. T. A. Ryan will serve as acting chairman of the department during his absence.

Donald G. Whittredge, during 1946-47 a member of the staff of the Harvard University Veterans Center, will be an instructor at Tufts College beginning with the fall term.

Norman Kaplan, now a psychologist at the VA Hospital at Perry Point, Maryland, has been appointed an instructor in clinical psychology at the University of North Carolina effective September, 1948.

Helen Kitzinger is now a clinical psychologist with the VA Psychiatric Hospital at Sawtelle. She was formerly with the Guidance Center at Los Angeles City College.

Joseph R. Grassi has resigned as director of the psychological laboratories at Fairfield State Hos-

pital, Newtown, Connecticut, to accept an appointment as assistant professor and chief clinical psychologist in the department of psychiatry and neurology of Wake Forest College, Bowman Gray School of Medicine.

A. T. M. Wilson, director of the Tavistock Institute of Human Relations, London, will be a guest lecturer for the summer session of Northwestern University in the departments of psychology and sociology. He will teach a graduate seminar in social psychology and give a series of public lectures on the work of the Tavistock Clinic.

Lyle Lanier is the new chairman of the department of psychology at New York University. He will be responsible for the direction of graduate work in psychology. On leave from Vassar College, where he has been chairman since 1938, he is currently executive director of the Committee on Human Resources of the Research and Development Board.

Frederick C. Bartlett has been knighted, his name appearing in the New Year's honours list for 1948.

C. Gilbert Wrenn, professor of educational psychology at the University of Minnesota and president of the American College Personnel Association, will direct a workshop on counseling at the University of Hawaii during the 1948 summer session. This is the first workshop of its kind to be conducted in the Hawaiian Islands.

Ronald E. Crawford has become the first school psychologist in the public schools in Putnam County, New York.

Eino Kaila of the University of Helsinki is coming to the United States this spring to visit several psychological research centers.

Eva Balken, on leave from the University of Chicago, is giving a course on *Psychodiagnostic Techniques* at Maudsley Hospital, University of London.

The Psychiatric Institute of the Municipal Court of Chicago is establishing a psychiatric unit in the Bridewell Hospital, where the staff can study adult patients under hospital-controlled detention conditions. The psychologists at the Institute are **Agnes A. Sharp**, director, **Margaret S. Bay**, **Mary Dee Berks**, **Rita M. Weinberg**, and **James E. P. Libby**.

The APA wishes a complete list of institutions offering graduate assistantships and fellowships in psychology. In the January, February and April issues of the *American Psychologist* we have published information from those institutions which have written us. As one result, we have requests from various agencies for "a complete list of institutions offering graduate work in psychology". We have no complete list. We would appreciate receiving letters from all institutions omitted from the three published lists in order to prepare a more complete one.

E. G. Williamson of the University of Minnesota has made these comments concerning the possibility of presenting a more complete picture of stipends available for graduate students:

"Most of the opportunities described pertained to academic psychology, and some of the best opportunities in the country in related fields were overlooked. Naturally, I was most interested in those opportunities existing in this institution. At least fifty stipends for graduate students in psychology and related fields are available at the University of Minnesota which are not described in the article. These include clinical fellowships in the Student Counseling Bureau, administrative fellowships in the Student Housing Bureau and in the Student Activities Bureau, clinical fellowships in the Bureau of Veterans' Affairs, counselorships in the university dormitories both for men and for women, counselorships in the College of Education, the College of Science, Literature and the Arts, in the General College, and so on. These positions are now providing opportunities for graduate students in psychology, educational psychology, and related fields, and I think certainly should be included in any listing of stipends."

Similar opportunities in other institutions should be called to our attention so that we can make future lists more complete.

Further graduate fellowships, scholarships, and assistantships, not listed in the January and February issues of the *American Psychologist*, are described in the following paragraphs.

Kent State University, Kent, Ohio. Term begins Sept. 27. Apply for admission to Dean, Graduate School. Tuition: \$90 a year. Stipend: \$650. Apply to **Raleigh M. Drake**, Department of Psychology.

Duke University, Durham, North Carolina. Term begins Sept. 16. Apply for admission to Dean, Graduate School. Tuition: \$350 a year. One scholarship; 5 hours work a week; stipend \$950-\$1500. Three graduate assistantships; 10-15 hours work a week; stipend \$800-\$1500. Apply to the Dean of the Graduate School.

Committee on Human Development, University of Chicago, Chicago, Illinois. Term begins October 1. Apply for admission to the Office of Admissions. Tuition: \$450 a year. Various scholarships; 5 hours work a week; stipend \$225-\$450. Two fellowships; stipend \$600-\$1200. Send applications to Committee on Fellows and Scholars. Two research assistantships, not awarded to new students; 20-30 hours work a week; stipend \$1200. Apply to Committee on Human Development.

Princeton University, Princeton, New Jersey. Term begins September 20. Apply for admission to Dean **H. S. Taylor**. Tuition: \$300 a year. Various tuition scholarships. Various fellowships; stipend \$450-\$1800 ex. Apply to Dean **H. S. Taylor**. Five research assistantships; 12 hours work per week; stipend \$750 ex. Apply to Dean **H. S. Taylor**.

Institute of Child Welfare, University of California, Berkeley, California. Four half-time teaching assistantships and one or more research assistantships; stipend \$1070. Out-of-state students may receive exemption from tuition. Apply to Institute of Child Welfare, University of California.

The Research Center for Group Dynamics is moving to the University of Michigan. The transfer from MIT will be made July 1. It will be associated with the Survey Research Center of the University of Michigan, of which **Rensis Likert** is director. **Angus Campbell** will be in general charge of Survey Research and **Dorwin Cartwright** will continue to direct Group Dynamics. Other members of the staff are **Ronald Lippitt**, **John R. P. French, Jr.**, and **Leon Festinger**. All will carry teaching assignments in the social sciences in addition to their research.

Several research contracts are now held by Group Dynamics, and the University of Michigan expects that much future research will also be done under contract with business and government agencies. The Center also has a grant from the Marshall Field Foundation for the next two years.



WILLIAM STEPHENSON

William Stephenson is visiting professor at the University of Chicago beginning with the spring term.

A new building for the department of psychology at Queens College, which psychology will share with chemistry and home economics, has recently been started. Gregory Razran is chairman of the department and Edward M. L. Burchard is secretary. The staff now consists of Wilma E. Artus, Joseph M. Miller, and Gregory Razran in experimental, physiological, and theoretical psychology; Edward M. L. Burchard, John M. von Felsinger, and W. Douglas Spencer in qualitative aspects of testing, clinical psychology, and personality; William J. E. Crissy in industrial psychology; and Marian J. Radke in child psychology. The department expects to add two or three more members to its staff in the fields of statistics, social behavior and personal adjustment.

The Interim Committee to organize the Illinois psychological associations, appointed November 21, 1947, has supplemented its efforts by activating a Survey Committee with Ruth Wright as chairman, a Membership Proposals Committee with Ethel Kawin as chairman, and a Functions and Program Committee with Thelma Thurstone as chairman.

The North Carolina Psychological Association, representing all psychological interests in the state, presented a request for affiliation with the American Psychological Association in September 1947. Dannie J. Moffie is president and William McGehee is Secretary-Treasurer. There are thirty-six charter members.

Meetings of the Iowa Academy of Science will be held on April 16 and 17 at Parsons College in Fairfield, Iowa. A group of interested psychologists expect to meet there to form an Iowa Psychological Association, which will be affiliated with the Conference of State Psychological Associations of the APA. More details can be secured from George D. Lovell at Grinnell College, Grinnell, Iowa.

SPSSI's Committee on Intergroup Relations has established three subcommittees: (a) Exchange of Research Plans and Measurement Techniques, chairman, J. B. Holland; (b) A Book on the Measurement of Prejudice, chairman, Robert Chin; (c) Crucial Research Areas, chairman, Marie Jahoda. Those interested may secure information from the Secretary, Mary Evans, c/o CCI, 212 West 50th St., New York 19, New York, or from the committee chairmen.

A VA Mental Hygiene Clinic in Brooklyn was opened in November. The present staff consists of Bernard Locke, chief psychologist, Peter J. Napoli, assistant chief psychologist, and staff members Rose Brenner, Aaron H. Canter, Mildred Ceres, Janet Fritz, Solis Kates, George Lapidus, Tamara Pollack, Selig Rosenberg and Lottie Sobel.

David Levy is directing a study of the effects of war on children. The study is under the auspices of the International Committee on Mental Hygiene and is financed by a \$20,000 grant from the United States Public Health Service, according to their announcement in February. Results will be presented at the International Congress on Mental Health in London next August.

The frequency with which the Notes and News section of this journal carries announcements (such as the seven following ones) of short courses or conferences on special topics points up a significant trend in psychological education. These courses are variously called workshops, conferences, or seminars. They are given by universities, colleges, laboratories, clinics, and hospitals, by private individuals, and by private individuals incorporated into a company.

Sometimes they are free to those interested; sometimes considerable tuition is charged. Some carry university credit; others do not.

Ideally, these conferences bring together a limited group of people, all interested in a common topic, and all eager to learn more about that topic. They provide an opportunity for such a group to spend a day to a few weeks in discussing, practicing, improving, arguing, and clarifying the topic under consideration. They have grown up outside of the traditional academic plan of classes and attendance at scientific meetings. Their popularity suggests that if they became a feature of national or regional meetings, they would probably be well attended.

Albert Rabin of Michael Reese Hospital will present an intensive *Rorschach seminar* to graduate majors in clinical psychology at the University of North Carolina during the week of April 19.

Molly Harrower will conduct a seminar in the *Rorschach method* (intermediate to advanced level) at the University of Georgia from May 21-23. Further information may be obtained from R. T. Osborne, Director, University Guidance Center, Athens, Georgia.

S. J. Beck will conduct a seminar on *Ego Trends in Rorschach Test Pattern*, from June 7 through June 11. The course is full time and the fee is \$40.00. For further information, write Michael Reese Hospital Postgraduate School, 29th St. and Ellis Avenue, Chicago, Illinois.

A second annual Conference on the *Experimental Analysis of Behavior* will be held at Indiana University June 1 to June 5. F. S. Keller, W. N. Schoenfeld, W. J. Daniel, and W. K. Estes will be in charge of special sessions. The Conference is open to all interested persons. Reservations should be made as soon as possible with B. F. Skinner, Department of Psychology, Indiana University, Bloomington, Indiana.

The Second Annual Conference on *Mental Hygiene and Problems of Exceptional Children* will be held at Syracuse University May 14-15, 1948. This conference, sponsored by the Syracuse University School of Education and the George Davis Bivin Foundation, Cleveland, Ohio, is open to all interested individuals.

The Western State Psychiatric Institute and Clinic,

Pittsburgh, will hold its Third Annual Coordinating Conference on April 1. The theme of the conference is *The Design of Research in Mental Health*.

The Second National Training Laboratory in Group Development, sponsored by the National Education Association, the Research Center for Group Dynamics, and other agencies, will be held at Gould Academy, Bethel, Maine from June 14 to July 3. This laboratory offers the opportunity for action leaders, educators, and social scientists to cooperate in an experimental approach to problems of training and action research. Delegates will be selected from various fields. For further information and for application blanks, write to Leland P. Bradford, Division of Adult Education Services of the National Education Association, 1201 Sixteenth Street, N.W., Washington 6, D. C.

Psychological books needed in China. William K. C. Chen, now at the City College in New York, has written that various universities in China would greatly appreciate the gift of books and journals because of the impossibility of purchasing them during the inflation of Chinese currency. "The National Central University at Nanking is one of the leading universities in China. But the reading room of the Psychology Department contains only books published before 1937, when the Sino-Japanese war broke out. Both teachers and students are seriously handicapped. I understand that many psychologists in this country would be willing to donate some of their extra books and journals provided that they could be sure of having the books reach a place where these publications could meet the needs. Hence I should like to offer a list of names of the receivers and their colleges for the consideration of those psychologists who may be interested in this matter of generous donation. One word may be added. I can assure that the books and journals sent over can reach their destination safely and will be used for good purpose and, of course, highly appreciated."

1. Dr. H. H. Hsiao, Psychology Department, National Central University, Nanking, China.

2. President K. L. Chi, Hopei Provincial Teachers College for Women, Tientsin, China.

3. Mr. K. Y. Hu, Department of Education, National North-western Teachers College, Lanchow, Kansu, China.

4. Dr. S. Y. Ching, Department of Education, National Peiping Teachers College, Peiping, China.

A new Institute for Applied Experimental Psychology at Tufts College will work in relationship with the Engineering School, the Medical School and other science departments. The work of the Institute will center in applied visual research, bioelectric phenomena, synthetic training devices for industry and the armed forces, the analysis of human motor skills, the preparation of training manuals, the development of handbooks of psychophysiological functions, and statistical methods.

Four internships in applied experimental psychology for qualified students who already hold the PhD or its equivalent are available for the academic year 1948-49. Interns who meet special qualifications may be awarded the degree of Doctor of Science on the completion of an assigned research thesis and the passing of appropriate examinations. These examinations will be conducted by the Institute staff and by visiting examiners from other universities. For further information apply to John L. Kennedy, Director, Institute of Applied Experimental Psychology, Tufts College, Medford 55, Massachusetts.

Internships are available at the Syracuse Unit of the New York State Psychological Intern Training Program. Stipend, approximately \$100m; MA training desired; possibility of graduate credit. At end of training, a certificate is issued by the Department of Education of the University of the State of New York. Write to Supervisor of Psychological Intern Training, Marcy State Hospital, Marcy, New York.

The Illuminating Engineering Society is now attempting to compile up-to-date information on research programs in the area of visual functions. Since this Society finds itself in the position of being asked to advise on the expenditure of research funds, current information consisting of brief descriptions of work in progress is essential. Replies should be addressed to Mr. Dean Holden, Illuminating Engineering Society, 51 Madison Ave., New York 10, New York.

The Delta Gamma Fraternity has a \$1000 annual fund from which smaller scholarship awards are made for those wishing to become teachers or specialists for the blind. The amount of the award in any particular case depends upon need and costs. For further details, write to Mrs. Richard P. Miller, 39 West Jefferson Road, Pittsford, N. Y.

Counselor, New York University. NYU's Testing and Advisement Center is in need of a psychologist to supervise the clinical testing of children and the counseling of parents in the field of child advisement. The minimum requirements are a master's degree and some relevant experience. One full time assistant will be assigned to this counselor as a psychometrist. There is opportunity for research and the possibility of teaching. The base salary is from \$3600 to \$4800, depending upon qualifications. Applications should be addressed to W. D. Glenn, Jr., Director, South Building, New York University, Washington Square East, New York 3, New York.

Clinical Psychologist, Texas. The Guidance Center of Houston announces a vacancy for an assistant psychologist, trained in testing both children and adults, and interested in learning psychotherapy. Specific details of experience should be sent to Mrs. Mary L. Rothschild, Chief Psychologist, The Guidance Center, 304 McIlhenny, Houston 6, Texas.

Thomas L. Bransford, formerly chief of the Test Development Section of the U. S. Civil Service Commission, is now director of Civil Service Examinations for the State of New York at Albany. An expansion of the Examinations Division has been provided for in the budget for the fiscal year beginning April 1, 1948, and there are currently announced nation-wide examinations for examiner positions paying entrance salaries up to \$6700. The range of titles and salaries is from principal personnel technician at \$6700 to senior personnel technician at \$4200. Another examination is for the position of senior statistician with an entrance salary of \$4638. All these positions are open to non-residents. The grades of personnel technician with entrance salaries of \$3450 are open to residents of New York only.

The psychology department of George Washington University has vacancies for three full time staff members, one at the associate professor level, one at the assistant professor level, and one at the instructor level. Persons with backgrounds in educational-child, personnel-applied, or general-theoretical are wanted. Any one interested should communicate with Dr. Thelma Hunt, George Washington University, Washington, D. C.

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AMERICAN PSYCHOLOGICAL ASSOCIATION

September 7-11, 1948; Boston, Massachusetts

For information write to:

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May 27-29, 1948; Winnipeg, Manitoba

For information write to:

Dr. C. R. Myers
100 St. George Street
Toronto, Ontario

MIDWESTERN PSYCHOLOGICAL ASSOCIATION

May 7-8, 1948; St. Paul, Minnesota

For information write to:

Dr. Claude E. Buxton, Department of Psychology
Northwestern University, Evanston, Illinois

AMERICAN ORTHOPSYCHIATRIC ASSOCIATION

April 12-14, 1948; Hotel Commodore, New York

For information write to:

Dr. Nina Ridenour
1790 Broadway, New York 19, New York

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

September 13-17, 1948; Washington, D. C.

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Dr. John M. Hutzel, A.A.A.S.
1515 Massachusetts Avenue N.W.
Washington 5, D. C.

AMERICAN ASSOCIATION ON MENTAL DEFICIENCY

May 18-22, 1948; Copley Plaza Hotel, Boston

For information write to:

Dr. Lloyd N. Yepsen, State Office Building
Trenton, New Jersey

EASTERN PSYCHOLOGICAL ASSOCIATION

April 16-17, 1948; Temple University, Philadelphia

For information write to:

Dr. Harold G. Seashore, Psychological Corporation
522 Fifth Avenue, New York 18, New York

WESTERN PSYCHOLOGICAL ASSOCIATION

June 17-18, 1948; San Francisco State College, San Francisco

For information write to:

Dr. Lester F. Beck, Department of Psychology
University of Oregon, Eugene, Oregon

ROCKY MOUNTAIN BRANCH OF THE AMERICAN PSYCHOLOGICAL ASSOCIATION

May 7-8, 1948; Colorado State Teachers College,
Greeley, Colorado

For information write to:

Dr. Lillian G. Portenier, University of Wyoming
Laramie, Wyoming

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THE AMERICAN PSYCHOLOGIST

The Professional Journal of the American Psychological Association, Inc.

Volume 3

May, 1948

Number 5

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Dael Wolfe, *Editor*

Helen Wolfe, *Managing Editor*

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IS PSYCHOTHERAPY DEPENDENT UPON DIAGNOSIS?

C. H. PATTERSON¹

Veterans Administration, Minneapolis²

AT FIRST glance, such a question as that posed in the title of this paper may seem absurd. The tendency would be to answer immediately: "Yes, of course", and to refer to the field of medicine, where it is quite apparent that therapeutic measures are determined by differential diagnosis. Thorne writes in this connection: "It seems elemental that rational treatment cannot be planned and executed until an accurate diagnosis has been made" (9, p. 319).

On the other hand, Rogers has just as positively stated that "diagnostic knowledge and skill is not necessary for good therapy" (7, p. 421).

Before proceeding further it should be made clear that we are concerned with the so-called functional disorders in which psychotherapy is applicable. It is recognized that there are mental disorders of definite organic origin, involving neurological disease, physiological disturbances, toxic conditions, and traumatic injury. There are also certain mental disorders which are possibly organic in nature, on a constitutional or endocrinological basis, e.g., the so-called endogenous depressions. Diagnosis of organic factors is an important medical function in these cases (assisted often by the use of psychological tests), and obviously influences therapy. Such diagnosis is, however, often difficult, and sometimes inconclusive, and psychotherapy should not be denied pending decision as to the presence or absence of organic pathology. Moreover, although psychotherapy may not be indicated for a purely organic disorder, there are often mixtures of organic and psychological components in which psychotherapy is beneficial. In addition, the presence of a purely organic condition may, and often does

result in psychological reactions to which psychotherapy may be directed. However, the present discussion is primarily concerned with the recognized functional disorders, including psychosomatic dysfunctions, of psychogenic origin, which are regarded as suitable for psychotherapy.

It might seem that a logical analogy could be drawn between internal medicine and psychiatry. Psychiatry, it might be maintained, is a branch of medicine, and therefore the principles, methods and techniques which are applicable in internal medicine apply also, of necessity, to mental disease and maladjustment. This approach is the basis of a recent article by Thorne (10), in which clinical psychologists are urged to learn from medicine by adopting its methods.

If one looks a little more closely into the matter, however, a question might be raised regarding the validity of the analogy between physical disease and mental disease. The two are, as a matter of fact, entirely different in many respects. In the first place, the nature of the primary malignant process is entirely different. In one case it involves primarily the physiological and chemical processes of bodily functioning; in mental disease of a functional type the disorder is primarily one of psychological and social behavior. Two distinct levels of functioning are represented which are different enough to raise considerable doubt as to the validity of any analogy between them. Again, physical disease is the result of specific experimentally verifiable foreign agents, whether chemical, bacteriological, or virus in nature. Such a statement cannot be made regarding functional mental disease, although it is the hope of some that eventually it will be possible to do so. Finally, in physical medicine there exists a wide variety of specific and experimentally or empirically verified remedies. Again, this is not the case in the field of mental disease. In other words, while in physical medicine accurate differential etiological diagnosis is possible, leading to the selection of specific remedies, in the field of

¹ The author wishes to acknowledge the stimulation of the members of an informal seminar, including Thelma Dorrah, Maria Feigl, Anita Greenspan, E. L. Phillips, Otto N. Rath, M.D., Lois Rath, M.D., Daniel N. Wiener and Gladys Wiener. The author is of course responsible for the argument.

² The opinions expressed in this paper are those of the author and are not to be construed as representing the point of view or the policy of the Veterans Administration.

mental disease no such specific etiological diagnosis is possible, nor are there specific, discrete psychotherapies which have differential effects from which to choose.

As a matter of practice, psychiatric diagnosis has little rational connection with choice of psychotherapy. Methods of therapy depend more upon the specific training, experience, and preferences of the therapist than upon the diagnosis. Those who feel that psychotherapy should be selective and specific, and thus "rational", chosen on the basis of diagnosis, have been unable to relate specific therapies to specific diagnoses, in terms of indications and contraindications, except possibly on the basis of severity of the condition. Attempts to list indications or contraindications are more often in terms of symptomatic or basic treatment or the depth of therapy desired or possible, the time available, etc. In other words, the distinctions are based upon the limits of the therapist and therapeutic situation rather than being related to the diagnosis or etiology of the disorder.

The difficulty, according to the usual argument, is chiefly with the diagnostic system of classifying mental disorders. Perhaps if we could develop a system of diagnosis based upon etiology we could apply specific types of therapy (provided they exist or could be differentiated) to specific types of mental disease. The idea sounds intriguing, particularly when we consider what has been accomplished in physical medicine, but the prospects are not promising (2). But granted that the classification of mental disorders is not possible in the present state of our knowledge, it might be expected that a thorough study of the individual case would yield an understanding of the etiological factors, and lead to a rational choice of therapy. Thorne, in his use of the term diagnosis, refers to "the description of the organism and its behavior by a variety of methods whose basic purpose is to discover the personality dynamics of each individual case. It is implied that the more complete the description, the more complete will be our understanding of why, when, where, and how the individual got that way" (10, p. 161). Elsewhere he states that "no rational plan of treatment can be accomplished without a detailed knowledge of each individual case history" (9, p. 320).

Rogers, however, maintains that a case history is not a prerequisite for therapy (6, pp. 80-84). It is rather common experience that, given a detailed

case study of an individual, wide differences and disagreements concerning its analysis and interpretation, in terms of etiology and personality dynamics, occur, not only between different professional groups, but within these groups. Indeed, the number of diagnoses on the basis of such material is about as great as the number of analysts (1). Rational or specific therapy is obviously impossible in such a situation. If we are unable to agree upon the etiology and specific dynamics of individual cases, we certainly cannot set up a diagnostic classification based upon etiology or dynamics.

Part of the difficulty no doubt lies in the fact that behavior is multiply determined—there is no single cause which can be isolated, to the extent that this is possible in physical medicine. But also, in terms of basic etiology there may be no fundamental or essential differences which will allow us to distinguish classes of mental disorder on an etiological basis. All maladjustments may be essentially alike in terms of basic etiology, and the various behavior, or symptomatic, manifestations which appear to distinguish various types of disorder may be determined by contingent influences. In that event, specific therapy would not be possible, necessary, or desirable, except on the basis of severity of the disorder, and the presence or absence of organic disease or insult.

That there is a common basic etiology of all functional mental disorder is not a new idea. In fact, most discussions of maladjusted behavior take such a point of view. Work on experimental neuroses in animals, e.g. that of Masserman (3), indicates that the same experimental procedure results in widely different types of maladjusted behavior in different animals of the same species. Moreover, a variety of apparently different procedures are capable of inducing maladjusted behavior. The variety of manifestations of mental disorder, leading first to a symptomatic classification, has perhaps blinded us to the common origin of all maladjustment.

In the field of psychological testing, the failure to find diagnostic test signs to differentiate the various classifications of mental disease may be as much the result of the absence of basic differences as of the inadequacy of the present primarily symptomatic classification. In fact, the obtained overlapping of the various diagnostic categories in terms of test results would tend to support the theory of a basic common etiology, with differences being relatively

unessential or determined by other contingent factors.

Instead of assuming that we need a new classification, based not upon symptomatology but upon some other more fundamental difference such as genetic origin, we should develop a rational therapy directing attention to the basic elements of maladjustment common to all mental disorder. If we found that there is a common basic etiology, then, rather than being concerned about developing specific therapies, a rational psychotherapy would be concerned with principles and techniques which are most effective in reaching and remedying the underlying causes of maladjustment.

As a suggestion of the line such an approach might take, the following discussion is offered in outline. It involves first a statement of a theory of behavior and its maladjustment, followed by a statement of therapeutic principles and practices which arise from a consideration of the nature of maladjustment. The discussion draws from the work of many people including that of Masserman (3), Mowrer and Kluckhohn (4), Rogers (7, 8), and many others who have written in the field of personality and its disorders.

OUTLINE OF A THEORY OF BEHAVIOR AND ITS ABERRATIONS

I. *Assumptions:*

1. The living organism, by definition, is never at rest but in a state of constant activity, with physiological tendencies to approach or withdraw, contract or expand.

2. It is characteristic of living matter that it tends to seek a state of equilibrium, both within itself and in relation to its environment, and to maintain its organization when threatened.

3. In the realm of personality and behavior, this characteristic is exemplified by the tendency of the individual to become and remain integrated and consistent within itself.

4. Since the organism is constantly subject to stimuli, both from within and from without, equilibrium is never maintained for long, but is dynamic and unstable.

5. This dynamic equilibrium allows for change, so that all living organisms are normally characterized by change, or growth and development, from lesser to greater complexity, from immaturity to maturity, from dependence to independence, from irresponsibility to responsibility.

II. *Principles:*

1. Although the organism is constantly active, this activity is not random, but is directed or motivated by needs, drives, etc., on a physiological level, and by wishes, desires, etc., on the psychological and social levels.

2. The organism reacts to its environment or to a stimulus as it is perceived and experienced, not as it may actually exist. Interpretive or symbolic (meaningful) processes thus intervene between the stimulus and the response of the organism.

3. Motives are directed toward the preservation and enhancement of the organism (Assumptions 2 and 3).

4. All behavior is thus goal-directed, or a purposeful attempt to satisfy the needs of the organism, either through the approach toward beneficial stimuli, or the avoidance of noxious stimuli.

5. Behavior which succeeds in satisfying a need or desire is rewarded by the reduction of tension, or an approach to equilibrium or integration. Such behavior tends to be repeated again in similar circumstances, and if it continues to be successful in reducing tension it becomes fixated, or is learned, so that it becomes habitual.

6. The presence of unsatisfied drives or desires creates a state of physiological and/or psychological tension or disequilibrium.

7. When a need or desire is frustrated, either by external conditions or by conflict with another incompatible drive or desire, tension is not reduced, and the organism seeks for substitute or compromise satisfactions.

8. Such substitute satisfactions may or may not result in complete reduction of tension, and may or may not lead to the creation of additional tensions by arousing other antagonistic motives.

9. Behavior becomes maladjusted when substitute satisfactions do not result in sufficient tension reduction, and/or violate the integrity of the organism's organization, or result in behavior which is not acceptable to the (social) environment of the organism.

10. The repression of conflicts, or of unsatisfied needs and desires, occurs as the result of the tendency to maintain the integration and organization of the organism or personality. Conflicts and tensions may thus exist on an unconscious level.

11. Substitute satisfactions are retained because they supply partial satisfaction of needs. Since they thus become fixated they prevent further

growth and development and lead to immature, dependent, maladjusted behavior.

PRINCIPLES OF PSYCHOTHERAPY

1. Since all maladjustment is similar in origin, diagnosis in terms of symptomatology or etiology or dynamics is not essential to therapy. Similarly, knowledge of the content of the conflict involved is unessential as a prerequisite of therapy, since the technique of therapy does not depend on the nature or content of the conflict but upon the presence of conflict and the resulting tensions.

2. Since the functions of the formal case history (9) can be satisfied, insofar as is desirable, during the process of therapy, such a history is not a prerequisite of therapy. During therapy pertinent material will be brought out. Whether or not these data are factually correct is unessential, since it is the patient's interpretation of them which is important for his adjustment.

3. Since the basic etiology of maladjustment is the presence of unrelieved tensions as a result of conflict and inadequate substitute satisfactions (which constitute the symptoms of maladjustment), a rational therapy should aim at providing an opportunity for the individual to attain more satisfactory, acceptable, and direct satisfaction of his needs. Therapy should therefore be more than symptomatic, palliative, supportive, etc.

4. Therapy should result in bringing to consciousness the repressed conflicts so that they may be resolved in a more adequate manner, with consciously selected goals and methods of satisfying needs, and resulting reintegration of the self and more adjusted behavior.

5. Since the aim of development in the individual is ability to adapt and adjust to the demands of the environment in a mature, independent manner, therapy should avoid creating dependence. Therapy should therefore be directed toward aiding the patient to solve his own problems and developing problem-solving ability rather than solving his immediate problems for him.

6. Since one of the characteristics of the organism is the capacity for growth, this capacity should be capitalized on in therapy. Therapy should be directed toward freeing this positive energy in the individual so that more constructive, integrative, and adjusted behavior develops.

7. The therapeutic situation is a learning situation and the principles of learning apply. This

means that the patient will learn what he is taught in therapy, whether dependence or independence, immaturity or maturity, where to go to have his problems solved, or how to solve his own problems.

THE PRACTICE OF PSYCHOTHERAPY

1. The positive growth forces will manifest themselves in the individual if:

- a. He is given responsibility for himself,
- b. He is allowed the freedom to explore his own conflicts, attitudes, and feelings,
- c. The drive toward maturity and independence is recognized, and the opportunity to practice and learn independence through experience is provided.

2. Repressed conflicts and attitudes may be brought into consciousness by:

- a. The conveying of a sense of understanding and acceptance in a non-critical, non-judgmental relationship, conducive to the expression of negative attitudes, with resulting release of tension, and the assimilation of negative feelings by the patient,
- b. The creation by the therapist of a free, permissive atmosphere in which the client can explore his problems and conflicts and develop a conscious awareness of the elements of the conflicts,
- c. The clarification of expressed attitudes and feelings, enabling the patient to see himself in a somewhat different light, leading to insight into himself and the interrelationships among his attitudes and conflicts.

3. As a result of the application of these techniques a favorable situation for learning is supplied, in which the patient discovers and proposes alternative solutions for his conflicts and more adequate satisfactions for his needs. Insight, choice, and positive action arrived at by the client then follow, with resulting tension reduction.

4. Symptomatic or palliative therapy, involving suggestion, persuasion, reassurance, support, sympathy, etc., is admittedly ineffective in reaching at conflicts and tensions involved in maladjustment. In addition, these techniques, together with questioning, probing, advice, and interpretation, restrict the freedom of the patient and foster dependence, which are inimical to his progress in solving his own problems.

The practical significance of the foregoing is that the present emphasis on differential diagnosis is

unnecessary for therapy. It would also follow that for purposes of therapy, neither extensive nor intensive case history techniques nor so-called diagnostic testing is necessary.

For therapeutic purposes all that is necessary is that the patient come for help and be in sufficient contact to be able to verbalize his behavior and attitudes and feelings. As long as the motivation to change or grow exists, the application of the principles and techniques of therapy outlined above is possible. The point at which this motivation is lost is possibly a function of the severity of the disorder; i.e., one of the characteristics of a severe psychotic disorder appears to be the loss, perhaps only temporarily, of the positive growth forces, so that the struggle has been given up, with a complete rejection or denial of drives or desires which disturb the integration of the individual.

If in the course of this type of psychotherapy a severe psychotic or organic condition becomes evident, no harm will have been done, and psychotherapy may be abandoned as being ineffective or inapplicable—although of course such therapy might be an adjunct and continuation of other chemical or physical therapies which might reactivate motives and conflicts which could then be expressed or verbalized. A lack of awareness of conflict and need for therapy in a non-psychotic individual may preclude the use of psychotherapy, since it is generally recognized that such awareness and desire for help is necessary. In some individuals this may develop with continuing experience in which their behavior leads to discomfort and un-

happiness. It is possible that an awareness of maladjustment can be developed by the therapist by the induction of conflict, as suggested by Thorne (11). It would be desirable that such a technique be used by an individual other than the therapist who aids the patient in the solution of the conflicts, since it is inconsistent with the attitudes and principles of therapy discussed here, and is a preparation for, rather than a part of, therapy.

REFERENCES

1. ELKIN, F. Specialists interpret the case of Harold Holzer. *J. abnorm. soc. Psychol.*, 1947, **42**, 99-111.
2. MALAMUD, D. I. Objective measurement of clinical status in psychopathological research. *Psychol. Bull.*, 1946, **43**, 240-258.
3. MASSERMAN, J. H. *Principles of dynamic psychiatry*. Philadelphia: W. B. Saunders & Co., 1946. Pp. 322.
4. MOWRER, O. H., AND KLUCKHOHN, C. Dynamic theory of personality. Chapter 3 in Hunt, J. McV. (Ed.): *Personality and the behavior disorders*. New York: The Ronald Press Co., 1944. Pp. 1242.
5. RAPAPORT, D. The future of research in clinical psychology and psychiatry. *Amer. Psychologist*, 1947, **2**, 167-172.
6. ROGERS, C. R. *Counseling and psychotherapy*. New York: Houghton Mifflin, 1942. Pp. 450.
7. ROGERS, C. R. Significant aspects of client-centered therapy. *Amer. Psychologist*, 1946, **1**, 415-422.
8. ROGERS, C. R. Lecture notes.
9. THORNE, F. C. Directive psychotherapy: IV. The therapeutic implications of the case history. *J. clin. Psychol.*, 1945, **1**, 318-330.
10. THORNE, F. C. The clinical method in science. *Amer. Psychologist*, 1947, **2**, 159-166.
11. THORNE, F. C. Directive psychotherapy: XI. Therapeutic use of conflict. *J. clin. Psychol.*, 1947, **3**, 168-179.

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REFERENCES

1. ALEXANDER, F., FRENCH, T. M., ET AL. *Psychoanalytic therapy*. New York: Ronald, 1946.
2. BLAIN, D. The psychiatrist and the psychologist. *J. clin. Psychol.*, 1947, **3**, 4-9.
3. DIETHELM, O. *Treatment in psychiatry*. New York: MacMillan, 1936. Pp. 111-133.
4. GREGG, A. Transition in medical education. *J. Assoc. Med. Coll.*, 1947, **22**, 226-232.
5. HAHN, M. E., AND KENDALL, W. E. Some comments in defense of non-nondirective counseling. *J. consult. Psychol.*, 1947, **11**, 74-81.
6. ROGERS, C. R. *Counseling and psychotherapy*. Boston: Houghton-Mifflin, 1942.
7. ROGERS, C. R. Significant aspects of client-centered therapy. *Amer. Psychologist*, 1946, **1**, 415-422.
8. SYNDER, W. U. *The present status of psychotherapeutic counseling*. *Psychol. Bull.*, 1947, **44**, 297-386.
9. THORNE, F. C. The clinical method in science. *Amer. Psychologist*, 1947, **2**, 159-166.
10. THORNE, F. C. Theoretical foundations of directive psychotherapy. *Annals N. Y. Acad. Sci.*, 1947, in press.

PRINCIPLES OF DIRECTIVE COUNSELING AND PSYCHOTHERAPY¹

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INTRODUCTION

CLINICAL psychology has emerged from the prescientific into the scientific era of development. There is urgent need for a comprehensive integration of all scientific data into a "system" of practice which would be genuinely eclectic and provide a basis for the standardization of practice throughout the world. Such a system would be based upon the most modern scientific principles and methods, and would attempt to relate the most recent discoveries with the great mass of information accumulated during the history of the profession. An example of this phase of development in the medical field was the work of Sir William Osler who wrote the first systematic text on the practice of medicine and laid the foundations of the great medical center at Johns Hopkins University. Characteristic of the newer theory of professional education has been the insistence that the orientation must be genuinely eclectic with every student being required to familiarize himself with the latest developments in every clinical specialty.

Prior to World War II, uniform training was nonexistent in clinical psychology and every student operated more or less on his own with whatever tools and qualifications he had been able to acquire informally. This situation is being rapidly remedied during the post-war period through the efforts of the APA committees on graduate training in cooperation with the universities, but in spite of this desirable trend clinical psychology in America is still characterized by a primitive state of organization in which the leaders in the field operate more or less independently. Until the recent popularity of non-directive methods, there was no general agreement on any theoretical viewpoint with the result that there were almost as many brands of clinical psychology as there were clinical psychologists. Lacking

any formally systematized viewpoint, the theoretical biases of clinical psychologists literally represented all the permutations and combinations of behaviorism, experimentalism, Gestalt psychology, Freudianism, Adlerian individual psychology, Jungian analytic psychology, purposivism and many other minor schools. Most of the leaders in clinical psychology were represented by groups of adherents who were well-trained only in the methods of their teachers. So divergent were the different ideologies and terminologies that proponents of the various schools were frequently unable to communicate with each other. In view of these theoretical differences, it is easy to understand why clinical psychologists have been viewed with suspicion by their experimental colleagues to say nothing of psychiatrists and psychoanalysts who have theoretical biases all their own.

ORIGINS OF DIRECTIVE PSYCHOTHERAPY

The purpose of this paper is to review the basic principles of the comprehensive system of directive psychotherapy described in the series of papers appearing in the *Journal of Clinical Psychology* beginning in 1945, and to make a definitive statement concerning the eclectic orientation which is the basis for the proposed system of practice. The primary motivation was to formulate a comprehensive system of counseling and psychotherapy which would integrate and relate the positive values of newer viewpoints with traditional methods. This system would be more than a compilation of isolated facts, and would be based primarily on the objective foundations of experimental psychology. Its basic orientation would be determined by a detailed system of psychopathology derived from a more comprehensive method of personality analysis than had ever been attempted before. Modifying the classical psychiatric methods involving (a) Kraepelinian descriptive classifications, (b) psychobiological longitudinal studies, and (c) psychoanalytic depth analysis, the new method would seek to systematically evalu-

¹ Condensed from a paper presented at a symposium under the auspices of the Division of Consulting Psychology at the Detroit meeting of the American Psychological Association, September 10, 1947.

ate and, if indicated, to modify *all known important personality traits* by the eclectic utilization of all available methods according to their indications and contraindications.

Although recognizing the undesirability of designating a system of psychotherapy by the term "directive," the choice was partially determined by our apprehension that the sudden popularity of Rogerian nondirective methods to the exclusion of traditional methods was a dangerous development both for the profession and for the student. This critical attitude was directed not so much toward nondirective methods which are admitted to have great value in their place, but toward the attitude of uncritical enthusiasm and cultism associated with the new development. It appeared that there was definite need for a comprehensive system which would relate directive and nondirective methods in their proper perspective and emphasize the values of eclecticism in clinical science.

TERMINOLOGICAL CONSIDERATIONS

The term *directive* seemed particularly appropriate to designate a system of therapy which is based upon a formal plan for the identification and modification of etiologic factors in maladjustment. Based upon the historical study of the evolution of clinical methods in science which have been outlined elsewhere (9), it was our opinion that any valid therapeutic system must be oriented about a comprehensive knowledge of psychopathology and the uses and limitations of *all known clinical methods*. It is presupposed that persons representing themselves as clinical psychologists should have training and experience to enable them to adequately utilize all known methods according to the standards of time and place. Possession of such training and experience beyond that which might be expected of the most intelligent and best-informed layman implies that the basic responsibility for the *direction* of all stages of case handling lies with the therapist even though he may choose to delegate some portion of this responsibility to other persons including the client himself. In our opinion the possibility of a completely nondirective method is nonexistent since by the very nature of the therapist-client relationship (a) the client comes to a therapist considered to be of superior experience and training which thereby establishes a relationship of dominance through prestige, (b) the therapist determines the method to be used, and (c) what happens in the therapeutic relationship must be evaluated not

only in terms of what the therapist thinks he is doing but also in terms of what the therapy means to the patient. Rather than involving a dichotomy of either-or directive or nondirective, we are dealing with a continuum involving various degrees of directiveness of which nondirective methods may be regarded as being at one extreme along with other "passive" techniques. We are in disagreement with Roger's contention that any lapse from complete nondirectiveness is a grave therapeutic error, since our experience indicates that all degrees of directiveness may be used with a single case according to the indications of each individual situation.

The concepts of *directive* and *direction* also imply straightforwardness, i.e. straight, leading by the shortest way to a point or end. *Directed* movements of an organism are those which are observed to be related to a specific stimulus or goal. *Direction* is an attribute of behavior indicative of specific function and variously expressed in terms of needs, drives, goals, purposes and other concepts descriptive of integrated behavior. One of the principal characteristics of the maladjusted or disordered person is the inability to resolve problems unaided. Although self-direction is the highest democratic goal and evidence of integration, the maladjusted person either asks for help spontaneously or is induced to do so for his own good. Until such time as the person demonstrates his ability to regulate his behavior within the limits of what is socially acceptable, he is subjected to varying degrees of direction or regulation from the environment. The general rule may be stated that *the need for direction is inversely correlated with the person's potentialities for effective self-regulation*, i.e. the healthier the personality, the less the need for direction; the sicker the personality, the more the need for direction. It is to be assumed that the well-trained psychological scientist is the person best equipped to provide whatever degree of direction may be necessary to catalyze therapeutic processes by the shortest route. Judiciously utilized, psychological knowledge may have specific action in facilitating curative processes in much shorter time than might be accomplished by the client working by trial and error even assuming that homeostatic resources would be sufficient. While recognizing the dangers of over-regulation and over-interpretation in cases of mild personality disorder, it is our opinion that failure to institute the indicated degrees of direction in more serious cases may constitute malpractice since the therapist has the obligation to protect the inter-

ests of the client when the client is unable to do so himself.

The significance of these facts is that the therapist is supposed to *direct* the overall details of case handling according to tested scientific procedures whether he is utilizing nondirective methods or authoritarian methods in an institution. It is assumed that training and experience will provide the therapist with the knowledge concerning when to be directive or relatively nondirective. The validity of the results will be determined by the skill with which any method is used with reference to etiological diagnosis and the indications of each individual case. *The critical factor is not what method is used but rather the skill with which it is used.* We are not in agreement with the ideological bias of many nondirective therapists to the effect that all which is directive is bad, while all that is nondirective is good. In his basic text, Rogers (6) attacks directive methods by setting up the straw man of criticizing the most crude and unacceptable forms of directive methods and implying that all directive techniques are subject to the same handicaps. Directive methods can only be fairly judged when they are employed with maximum skill; it is unrepresentative to base criticisms on atypical examples which would be condemned by all experienced directive therapists. Long before the development of nondirective methods, psychoanalysis had demonstrated the errors of over-interpretation, too much leading, crude interference and other pitfalls of the beginning counselor. The nondirective viewpoint appears to have gone to the extreme of rejecting direction in any form simply because it has frequently been misused. Hahn and Kendall (5) and others have recently pointed out the logical inconsistencies involved in many of the theoretical criticisms made by Rogers and his pupils against directive methods. Perhaps most important is it to emphasize that all valid therapy is client-centered and that nondirective therapy has no monopoly on methods which are to the best interests of the client. As pointed out by Blain (2), effective therapy frequently involves a compromise between what a patient sincerely believes he wants and what he needs according to the most objective judgment of the experienced therapist. Although it is theoretically desirable to place major dependence upon the growth principle and homeostatic processes as emphasized by Rogers and many others before him, there are many cases in which the client's resources and growth potentialities are so deficient or damaged

that adjustment without outside help and direction is impossible.

A further application of the concept of *directness* is illustrated in our attempt toward a systematic application of the Law of Parsimony (Lloyd Morgan's canon). In contrast with the current popularity of psychoanalytically oriented approaches which seek to discover latent meanings, symbolism, unconscious complexes and other depth processes in personality, our viewpoint is that primary weight should be assigned to direct interpretations of manifest behavior according to the principles of scientific psychology and particularly the laws of learning. Much is lost by failing to make the simplest possible interpretations and also by proceeding in the most direct manner consistent with the needs of the client. In our own practice, we systematically avoid complex psychoanalytic interpretations, preferring to communicate whatever minimum amount seems indicated in the simplest of terms. It is an axiom of directive therapy, as well as nondirective, that the less said by the therapist the better.

Finally, we would specifically refute the implication made by Snyder (8) and apparently accepted by others, that the term *directive psychotherapy* was coined by us simply to refer to traditional methods of therapy and involving little which is new. While it is true that many of the methods included under directive therapy have long been utilized, there has not been any systematic attempt known to us in the English literature to reevaluate them in terms of modern psychopathology with the objectives of determining their nature, indications and contraindications. Traditionally, these methods have been described and utilized as isolated units with no attempt being made to construct an integrated system about a central theory of personality.

THE BASIC METHOD

The theoretical foundations for directive psychotherapy are derived from a survey of the historical development of clinical science carrying over the principles and methods which appear to be valid for clinical psychology. As pointed out elsewhere (9), clinical psychology has a medico-psychological heritage dating back to ancient Egypt and one must be familiar with the evolution of medical psychology in order to evaluate any development in proper perspective. Utilizing standard techniques of description, classification, statistical evaluation and integrative interpretation, directive psychotherapy

attempts to discover the causal conditions resulting in maladaptation and then to utilize treatments specific for each pathological condition. Unless comprehensive etiologic studies are carried out with every case, it is difficult to understand how any objective evaluation in case handling may be made. However, this unending search for the causation of morbidity must never be allowed to conceal the basic objective of satisfying the needs of the client.

The basic pattern of directive therapy in which the therapist, though client-centered, assumes responsibility for the conduct of all details of case handling according to the highest ethical and professional standards of time and place is given in another paper (10).

Gregg (4) states a cardinal axiom that the human organism involves such a complex relationship of constituent parts that one cannot be modified without effecting all others; that, therefore, a given result comes usually not from one cause but from a combination of causes, sometimes a sequence, sometimes a constellation or pattern; and similarly, that a given cause has not one but many results, sometimes in sequence, sometimes in pattern. With such a complex situation, it is inevitable that a wide armamentarium of therapeutic tools will be needed, each used as skillfully as possible based on a valid knowledge of what each tool can be expected to accomplish.

PSYCHOPATHOLOGICAL RATIONALE

One of the most important contributions of Adolf Meyer's psychobiological approach to personality was his recognition that pathological processes of different types may involve personality functions as a whole or in parts. By careful appraisal of all the known functions of personality, it becomes possible to identify areas of dysfunction, to postulate etiologic factors, and to outline specific plans of treatment. The psychobiologic approach is genuinely eclectic in the sense that it seeks to assess all known functions with proper weight being assigned to dysfunctions of each in the longitudinal study of personality. In this respect, the psychobiologic viewpoint may be contrasted with that of psychoanalysis in its various forms. In our opinion, psychoanalytic theory is one-sided in that it overemphasizes latent, unconscious, affective-impulsive components of personality while almost disregarding the direct, manifest, rational intellectual components characteristic of the higher mental functions and which are best understood by the psychology of learning and think-

ing. When the psychoanalytic viewpoint is carried to its logical conclusions as in nondirective therapy, the main emphasis is placed on affective-impulsive components which are regarded as involving the principal etiologic factors in maladjustment. Snyder (8) even defines the objective of psychotherapeutic counseling as to "modify emotional attitudes that are socially maladjusted" and omits any reference to intellectual factors which may also be productive of maladjustment.

The system of directive psychotherapy which has been outlined in our published series of papers is theoretically oriented upon psychobiological approaches to the whole organism with perhaps more emphasis on rational intellectual components than on affective-impulsive since we believe that the highest potentialities for adaptation are related to the maturation and effective utilization of the higher cortical functions. The developmental phenomena associated with the maturation of the cerebral cortex are now well known and may be summarized in the statement that although the biologically more primitive affective-impulsive components of personality are constantly operative throughout life, the maturation of the cortex with the development of the higher mental functions results in the achievement of rational intellectual control through cerebral inhibition of lower functions and the acquisition of tremendously enhanced powers of learning. The dominance of the cerebrum over mid and hind-brain functions is achieved very slowly and only incompletely in the average person so that learning self-regulation, making the most of one's resources, and achieving insight into the meanings of behavior and life in general is a very gradual process.

In outlining the theoretical foundations of directive psychotherapy, we have attempted to integrate the principal contributions of the main schools of psychology. From behaviorism comes a major emphasis on the role of learning and of environmental stimulation in the development of acquired patterns of behavior. Experimental psychology of the traditional type contributes important information concerning sensation, memory, association, physiological reactions, and other relatively elemental phenomena. Gestalt psychology is important because of its emphasis on wholes, and its detailed studies of the perceptual process. Psychoanalysis gives most important emphasis to depth psychology, with its developmental studies of the affective-impulsive life. Finally, hormonal psychology contributes the stimulating view-

point that organic phenomena are largely determined by purposive factors as yet not clearly understood. Following the psychobiological approach which assumes that the psychologist will have detailed and extensive training and experience in the basic sciences of anatomy, biochemistry, physiology, pathology, as well as in normal psychology, directive psychotherapy depends for its validity upon the psychological sophistication and broadness of the person who attempts to utilize it. The better oriented is the clinician to the psychological sciences and to life in general, the more able is he to avoid the pitfalls which are recognized as inherent in any active (directive) method. Any method is no better than the skill of the person makes it. We have come to regard psychotherapy as involving the hardest kind of work for both therapist and client, since deviant personality patterns become chronic over the years can hardly be expected to be unlearned and relearned with startling rapidity.

Directive psychotherapy accepts the concept of *distributive analysis and treatment* developed by Meyer and described by Diethelm (3). The distributive principle assumes that it is most effective to budget time and energy during the treatment process giving major emphasis to trends which appear to be most etiologically important. Instead of spending hundreds of hours more or less passively exploring the channels taken by the client, considerable saving may be accomplished without violence to the client-centered principle by directing the course of treatment along what may seem to be the most profitable lines. In addition to etiologic studies exploring the developmental history of the person, it seems important also to assess learning ability and accomplishment in all areas of activity. Directive psychotherapy is particularly concerned with maximizing the self-regulatory functions of personality with particular emphasis on self-control and conative life. It seems important to deal with certain phenomena usually denied or ignored in traditional psychology including the study of the nature of consciousness, nonconscious mental functions, volition, suggestion, hypnosis, deviant personalities of all types, and other phenomena which have important significance for psychopathology.

The directive principle that intellectual resources constitute the highest potentialities for adaptation in the organism and that therapy must be realistically distributed to deal with both affective-impulsive and rational-intellectual factors as they are

encountered in the individual case, is based on the important distinction concerning primary and secondary etiologic factors in maladaptation. Etiologic factors may be identified as precipitating, predisposing or perpetuating. To explain our conception of the relative psychopathological importance of affective vs. intellectual factors in personality would require much more time than is here available. In summary, it seems important to reevaluate the entire etiologic role of affective factors in maladjustment with particular reference to the distinction between (a) *reactive* affective disorders, and (b) deeper habitual affective reactions based on constitutional or acquired personality complexes. In our opinion, affective disorders of reactive type have a much higher incidence and have most hopeful prognosis with or without treatment (although perhaps more quickly with treatment) when the stimulating factors are modified. In these cases, affective disorders are recognized to be symptomatic and therapy is primarily directed toward the intellectual failure to react adaptively. It may be necessary to treat affective-impulsive disorders first in order to prepare the stage for rational problem-solving activity but it should clearly be recognized that treatment of such reactive affective disorders results in only transient alleviation of symptoms which are prone to recur unless effective intellectual solutions are achieved. A basic diagnostic question therefore becomes: "Is the client maladjusted because he is emotionally disturbed, or is he emotionally disturbed because he is maladjusted?" The solution to this hen-egg problem is not always easily achieved, since reactive affective states may be of long duration. The degree of directiveness indicated in the individual case will be determined by the client's demonstrated ability to solve the problem alone.

Recognition of the need for maximally potentiating intellectual resources of personality in problem solving behavior has important implications in both theoretical orientation and practical application. If human behavior is determined by unconscious, instinctual, affective-impulsive components in personality, it follows that maladjustment is caused by mechanistic, physiological factors over which a person can exert little conscious, voluntary control unless his growth resources or homeostatic tendencies are sufficiently strong to fortunately effect a cure. On the other hand, if it is accepted that rational-intellectual factors may supersede and control impulsive behavior, then the normal person may be

expected to achieve some success in solving problems by conscious use of intellectual resources. This viewpoint does not necessarily involve the postulation of such mental functions as will or volition. On the contrary, the acquisition of self-regulatory abilities is regarded as a function of past training, usually by directive methods since few individuals are gifted enough to work out optimal methods by themselves, nor would such a trial and error process be economically desirable even if possible. Important areas of maladjustment are regarded as being caused by failure to *learn* to solve such problems using intellectual resources. This learning would normally take place in early life, thus normally preventing maladaptation. Since the basic factor in most psychotherapy is commonly recognized to be reeducation, it follows that the treatment process is essentially a training situation. It is occasionally necessary to resolve emotional attitudes before training can be begun, but this is not inevitable, since training may proceed even in unfavorable conditions. If latent, subconscious, un verbalized affective-impulsive reactions are important determiners of behavior, so are acquired intellectual traits and attitudes operating on manifest conscious levels. The goal of therapy is to replace emotional-compulsive behavior with deliberate rational-adaptive behavior based on the highest utilization of intellectual resources. To accomplish this may require the use of many directive techniques over and above the simple nondirective handling of emotional reactions which may be understood as simply the first step in therapy.

STATUS OF DIRECTIVE METHODS

Unfortunately, the traditional discussions of directive methods have dealt primarily with theoretical considerations with very little detail concerning the actual mechanics of case handling. Since each clinician has largely been forced to develop techniques by himself, it is understandable that the actual execution of these techniques ranged from literal perfection in the hands of the masters to the crudest bungling in the hands of amateurs. The situation is further complicated by the fact that the practical details have been taught by the apprenticeship method and only rarely described objectively. One of the purposes of the medical internship is to teach many small details of case handling which have never appeared in print, and which can only be learned by actually doing. No matter how rigidly and experimentally the treatment process may be controlled,

the actual success is largely a function of the skill and intuitiveness of the individual practitioner in making the patient comfortable while attempting to treat the basic condition.

Before any extensive research program could be planned or undertaken, it has been necessary to achieve a theoretical formulation of the principles and methods of directive therapy and this has been attempted in the series of papers appearing in the *Journal of Clinical Psychology*. The failure to produce more quantitative evidence in support of the validity of directive psychotherapy is a function of its youth. Experimental work with any of the traditional methods has been almost completely lacking. Directive methods are only now being formally described and related to a system of therapy, and it will take many years to accumulate objective validation as evidenced by the fact that the basic outlines of psychoanalysis have still not been confirmed after almost fifty years of research. Although slightly more objective research has been accomplished with nondirective methods, it is insufficient either to establish the rather optimistic claims of its proponents or, conversely, to offer objective evidence that directive methods are invalid.

The status of all methods of psychotherapy is in such an elementary stage of evolution that clinical psychologists find themselves in the position of the chemists who having discovered some of the rarer elements did not know what to do with them. Some of the neglected methods such as suggestion, hypnosis, reconditioning or reassurance may well turn out to have such startling possibilities when properly used as did uranium in relation to the atom bomb. When psychologists devote as much time and energy to training themselves in the use of any of these methods as do professional athletes or craftsmen, much of the crudeness which is now so much in evidence will inevitably disappear. In our experience, nondirective methods constitute just a beginning with respect to what the clinical psychologist may be expected to do. Some cases will show some improvement with the use of any superficial method, but others become progressively more maladjusted and constitute a challenge which will require the most effective use of all resources if the problem is to be solved. Directive psychotherapy requires that the therapist will be trained and able to make use of every known method in his field as indication may arise.

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THE COUNSELING CENTER AT THE UNIVERSITY OF CHICAGO

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AND

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INTRODUCTION

BECAUSE of a growing interest in client-centered counseling, it seems timely to devote a descriptive paper to the activities and special problems of the Counseling Center of the University of Chicago where some of the major work in this field is being undertaken and where the philosophy of non-directive counseling is applied to the administration of all activities of the Center.

HISTORY AND ORGANIZATION

The Counseling Center of the University of Chicago was established in October, 1945, to offer professional counseling services to both students of the University and others who might wish such assistance. From the start the Center has operated under the assumption that counseling is of most value when its primary purpose is to assist the client to help himself, thus following the principles of client-centered or non-directive counseling as they have been presented in other publications. The Center is staffed by 12 professional counselors, some of whom also teach. It has a receptionist who is professionally trained in psychology and client-centered counseling. Two persons take care of business and clerical matters. Four half-time clerical workers transcribe electrically recorded case material to be used for research and training purposes.

Carl R. Rogers serves as the Executive Secretary of the governing board, but three coordinators—Administrative, Professional Services, and Research—are chiefly responsible for the functioning of the Center. Nominations for the coordinator positions are made by all professional staff members, and new choices are made yearly if the staff so desires. The responsibilities of the individuals in these positions are not to direct and control but to integrate and coordinate the activities of the Center. There has been an effort to have questions of policy decided by the entire staff and not just by the coordinators. Weekly staff meetings are conducted without chairman or agenda, and business is handled by having each person free to bring up any question for group

consideration. A truly "give and take" attitude has developed and probably accounts for the smooth functioning that has accompanied this plan of administration. Perhaps one of its most fruitful results has been a genuine interest in and a sense of responsibility for the welfare of the Center by all staff members. Our experience suggests that the principles underlying client-centered counseling may have something to offer to the theory and practice of administration.

COUNSELING SERVICES

From the standpoint of time involved, the most important single function of the Center is to make available to clients the services of skilled counselors. Individual, group, and play therapy are all offered.

Clientele. From May, 1946 to May, 1947, 1,059 clients came to the Center. Of these, 819 utilized counseling interviews while the other 249 were preliminary interviews or referrals to other agencies. More than 4,600 interviews were conducted with these individuals. These figures do not include cases handled by students enrolled in counseling courses, as these contacts are all carried on outside the Counseling Center. About 60 per cent of the Center's clients are students of the University. The other 40 per cent come from Chicago and surrounding communities, with a few of the latter traveling several hundred miles for their appointments. Most non-student clients are representative of the middle classes although all social levels are represented to some extent.

Fee Policy. Students may utilize the services of the Center without charge as this is considered to have been paid for in their tuition fees. Non-students are asked to pay. Instead of being charged a set fee, however, the client is told that it costs the University approximately five dollars per counseling hour to maintain the service, and that he may set his own fee in keeping with his income. In practice, fees have ranged from \$17.50 per contact to nothing, with an average over the past six months of four dollars per contact. The total income of the Center

during the past year, which includes remuneration for special lectures by staff members outside the University as well as counseling fees, has amounted to 60 per cent of the budget.

Tests and Other Diagnostic Procedures. Tests and other diagnostic tools are not used in connection with therapy, although they are used with research cases in an attempt to measure personality changes resulting from counseling. Foregoing this aspect of clinical practice seems to us to so structure the counseling situation that the client more readily assumes the responsibility for changing himself.

Many clients come to the Center wanting or expecting certain tests. However, when the feelings and attitudes expressed in these requests are adequately handled by the therapist, a counseling relationship nearly always develops in which the client begins to explore his own emotionalized attitudes surrounding his problem areas. This practice does not imply that the client is never in need of information. This is certainly not the case. The policy is merely the result of our experience that most requests for information, at least among our clients, are the outward indicators of other problems which can profitably be handled by the general procedures of client-centered counseling. In certain instances the client may clearly desire, in lieu of or in addition to counseling, certain information that could perhaps be supplied by vocational aptitude or other tests. If so, he is told where such services are available.

Types of Problems. Client-centered counseling is not intended to deal directly with the *problems* of the client. Instead it deals with the client's emotionalized attitudes toward his problems and toward himself. The non-directive counselor, for example, is not concerned with marital friction, academic failure, or homosexuality per se, but concerns himself with the client's emotionalized attitudes and feelings about such things. No matter what the problem, the emphasis would be the same—the counselor would concentrate on the client's expressed attitudes about his situation and particularly about himself. An adequate handling of these feelings usually leads to deep exploration, insight, and changed behavior.

It is therefore meaningless, from our orientation, to present the proportions of clients falling into the various categories of the traditional classification systems, just as it is meaningless to make diagnoses according to the dynamics of personality make-up. However, a descriptive list of problems is informative. These include the usual maladjustments

ranging from what might be called the superficial and situational to more deep-seated personality disturbances. A large proportion of clients fall into the normal range, but the so-called deep-seated maladjustments have been helped with approximately equal consistency. An abbreviated list of problems includes concern over lack of friends, marital difficulties, failure to adjust on the job, failure in academic work, vocational uncertainty, sexual impotency, homosexuality, depression, and general feelings of inadequacy. Physicians sometimes refer persons suffering from psychosomatic disorders.

There are the usual procedures of referring individuals for psychiatric or other types of help available in the community.

Voluntary Nature of the Service. An important principle of non-directive counseling is that the client shall determine when and to what extent he wishes to utilize the service of the therapist, and this has been integrated into the procedures of the Center. The aim is to have clients feel they may use the Center in accordance with *their own needs and wishes*, and that the Center is not a place where one decision or another will be urged upon them. As this has gained more widespread recognition at the University and in the community, clients have been more willing to come in and openly face difficult and socially unacceptable problems. To achieve such an atmosphere the Center pays what may seem to many individuals a great price. For example, there is no pressure exerted to have a client return for a second contact even though he may have been referred by a dean for some problem immediately pressing to the University. On the other hand, the Center would not interfere if the responsible official imposed on the client those consequences which usually result from non-conformity and failure to meet prescribed standards. Lack of constructive outcomes may seem to result from this policy in a few instances, but our experience suggests that from the long-range point of view such procedures enable us to offer a more effective service.

Play therapy is an exception to this policy in that it is most often the parent who determines if the child will come to the Center. Here it is usually suggested to the parent that the child come for at least four or five contacts in order to see if results are being obtained. In a similar manner school authorities have sometimes required adolescent behavior-problem cases to come for six counseling appointments. The counselor would do everything possible to keep

the atmosphere of the therapy hour as permissive as possible and accept the fact that the client may be unwilling to make use of the counseling situation.

Confidential Nature of the Service. Everything related to counseling contacts is kept completely confidential, and the Center has implemented this policy with definite procedures. Cases are given pseudonyms which are used by staff members in all discussions of counseling problems. Counselors try, in so far as possible, to avoid learning the identity of other counselors' clients. When correspondence with clients is necessary, plain envelopes are used. No formal records about the client are kept except a card with such items of information as name, address, number of contacts, and fees paid. Records are less necessary since no information about a client is given out to individuals or professional agencies, even though they may have made the referral, except to state whether or not the client is coming to the Center and how often. Physicians, deans, and others frequently want more information about the outcome of counseling than this policy allows. This problem has been partly solved by suggesting to the client that he give his own report to the referring individual. At the conclusion of counseling, the client is told of the dean's or physician's interest and is asked if he would care either to dictate a report or drop in personally to see the referrer.

An important function of records is to refresh the counselor's memory as to what has transpired during the therapy hour, and therefore some counselors take informal notes. In many clinics formal records serve as a ready source of data for research and training, but this need is met at the Center by electrically recording many interviews. The Center is equipped with five recording machines which must be used for both recording and transcribing. The client's permission is always obtained before any recording is done, and the microphone is openly displayed. Open recording seldom serves as an inhibiting factor for the client, although occasionally this may be more crucial. It has been observed that the counselor's own true feelings of nonchalance or apprehension about recording are an important variable determining how the client will react to the microphone.

Time Limits and Frequency of Contacts. Counseling contacts are usually limited to 45 minutes. This time limit is set chiefly for the convenience of the counselor and for ease of administration, but a mutually known ending period for the counseling session is also thought to have therapeutic value.

Longer periods may be arranged for clients who have transportation difficulties getting to the Center.

Within the practical limits of the counselor's available time, the client sets the frequency of contacts, a policy which is consistent with the general principle that the client is the best guide as to how therapy can be made most profitable. The great majority of clients come in either once or twice a week. This varies occasionally, however, as one client may wish to come in every day while another client may have a month or more separating his contacts. Our experience suggests that it may be best to have a definite scheduling of contacts rather than to vary the frequency throughout the series.

During the past year there was an average of 5.2 interviews per closed case, but a definite trend has been noted for the number of interviews per case to increase. The range is from one to over a hundred contacts per case although either extreme is rare.

Evaluation of Outcomes. The evaluation of psychotherapeutic results has been a very puzzling problem for the Center as has been true almost everywhere else. Counselors rate completed cases on a nine point scale, taking into account the client's own statements regarding outcome, the problems which he has solved, and the counselor's estimate of the depth of personality reorganization involved. In many instances these ratings are not highly valid, and one counselor has even discontinued the practice as completely futile. For example, a case may have been rated low on the scale of successful therapeutic outcome only to find that marked improvement has occurred in the months following counseling, and again gains have not always held for cases marked high. Our evaluation of research cases is a more complicated procedure and involves the use of objective measurements as well as other criteria. It is hoped that research will provide more usable criteria for immediate evaluation of outcomes by the counselor. Some method of client evaluation seems to merit serious consideration.

While it is not possible to present more exact information, there are, of course, failure cases and others for which the outcome is in doubt. About one case in nine is an interrupted case; that is, one out of every nine persons coming to the Center fails to keep an appointment and breaks off counseling after one, two, or more interviews. The more experienced counselors in the Center, however, rarely have an interrupted case. All such cases are officially rated as failures, but several clients in this category have

returned a few months later to make rapid progress in a few interviews and to provide evidence that marked changes had occurred during the intervening months. The biggest group of interrupted cases is made up of individuals who seem to feel they must receive some kind of direct advice from the counselor. Perhaps about an equal number of persons, while not officially rated as interrupted cases, feel they have gained little or nothing from the counseling. In many of these cases where the interviews have been recorded, it is possible to see where lack of counselor skill has contributed to the disappointing outcome.

The very great majority of clients feel they have gained considerably from their counseling experience. Moreover, current research projects show that measurable changes in personality have occurred. More exact information on the outcomes of client-centered counseling can be presented when these research projects are completed.

Play Therapy. Both individual and group play therapy with children have become increasingly important activities at the Center.

Group Therapy. Although only simple beginnings have been made, the Center is doing more and more in the field of group therapy, where client-centered principles show promise of being very effective. Many clients prefer group to individual counseling, and often the two types of therapy have proven to be a valuable supplement to each other. Thus far group therapy has been undertaken with mothers, expectant mothers, teachers, nurses in training, failing students, students of counseling, as well as more heterogeneous groups.

The Center has a strong interest in the dynamics of all group situations, and it is felt that many of the same principles are involved in both the therapeutic and other types of group interactions. Although only a beginning, several current research projects are aimed at discovering such common principles. This research is greatly handicapped by the technical difficulties involved in getting usable electrically recorded transcriptions of group proceedings.

TRAINING

A second function of the Center is the training of counselors. Recently, its training activities have grown tremendously, not only due to the increase in the number of students in the University but also because students from various professional areas are becoming interested in the field of counseling. Some are coming to this field to learn the actual skills of

the counseling while others want to learn of its implications for their particular profession.

The Center itself has been involved in two somewhat separate training programs: the regular training program for University students and the Veterans Administration Training Program for Personal Counselors, which has recently been completed. Although from the standpoint of their administration these programs were separate, they were mutually related to the activities of the Center. The members of the staff of the Center make up the instructional staff for the training courses in therapy. In addition, the Center provides certain of its facilities for students in training. Students make frequent use of the Center's reading room which contains a library of recorded cases, books, journals, reprints and student term papers. The recording equipment of the Center is made available to students for recording many of their practice interviews. Members of the Center staff set aside certain hours for students who wish to discuss their practice cases. Finally, members of the staff are available to students wanting to use counseling interviews to work through personal problems. Students are encouraged to utilize this latter service of the Center, both for the purpose of achieving a better understanding of themselves and also in order to experience first-hand the attitudes and feelings of a person in the role of a client. Many of the students are making this a regular part of their training.

A characteristic of all of the training in which the Center staff participates is the degree to which its administration and operation seem to have become consistent with the philosophy which underlies the professional service functions of the Center. This is exemplified by the staff's increasing realization of the importance of students' attitudes and feelings in the learning situation, by their faith in the students' capacities for self-development, for intelligent choice of their readings, for self-determination of their goals and the methods of reaching their goals. For example, despite the large number of students in each program, group discussion has been used to a great extent. An effort is made to create an atmosphere where the students will feel free to ask questions during the presentation and to discuss the topic in groups following the presentation. A staff member participates simply as another member of the group or else assumes a role not unlike that of the leader in group therapy. In these groups the principal function of the "instructor" seems to be to help create

an atmosphere conducive to the expression of the students' attitudes and feelings. This he does not so much by any counseling "techniques" but more by consistent attitudes of interest, understanding and acceptance. It is our experience that in such an atmosphere learning is accelerated just as it is when a similar atmosphere exists in the counseling interview. This extensive use of group discussions has emerged from the staff's experiences in teaching counseling during which many methods have been tried with varying success. It is interesting to look back upon these experiences and observe that the trend has been unmistakably a gradual change from the more traditional methods of teaching, characterized by lectures and formal presentations, to methods which encourage the free expression of the emotionally-toned attitudes which accompany most learning experiences and methods which give the student more responsibility for his own development.

Several additional aspects of the counselor training seem to fit in with the Center philosophy. In the courses there are usually no required readings. Students select from bibliographies those readings which they feel will be most beneficial to them. Similarly, in some of the courses there are no lesson assignments at all.

It should be emphasized that these methods of "teaching" have not yet been subjected to rigorous objective measurement. They have evolved gradually as the staff's experiences continually demonstrated that such methods seemed to release heretofore unsuspected student capacities for self-instruction, creative thinking and personal growth in the learning situation.

The Training Program for University Students. Four basic courses are offered students of the University who desire training in counseling: "Dynamics of Personal Adjustment," "Adjustment Counseling: Principles and Practice," "Prepracticum in Psychotherapy," and "Practicum in Psychotherapy." The last is taken for two quarters. Altogether, there are ten courses in psychotherapy offered the University student, including courses in play and group therapy, advanced practicum opportunities, and advanced seminars dealing with research and theoretical interests. In addition, the students have voluntarily organized a weekly discussion group, which they call the "Post-Practicum," for those who wish to continue their training and practice beyond the regular courses offered by the University. There is an opportunity for a limited number of students

who have completed the regular series of courses to receive positions in the Center as externs or as counselors.

Students in the practicum groups do not handle cases at the Counseling Center. Their practice counseling is done at a number of different institutions throughout the city, most of which do not have trained counselors and consequently welcome the opportunity to utilize the services of the student-counselors. Each quarter there are some 25 students doing counseling, and some students handle as many as ten cases during the quarter.

The Counseling Center Staff Training Program. Further training of counselors on the Center staff is another function of the Center itself. The Center has been fortunate in having a sufficiently large number of recording machines so that counselors may record a great many of their interviews. The importance of the recorded interview for the improvement of counseling skills cannot be stressed too much. The Center staff feels there can be no adequate substitute for the recorded interview. Counselors find it most helpful to play-back their records in the presence of a more experienced counselor, who then may offer suggestions for improving the counselor's techniques. Frequently a counselor may enlist the help of a small group of other counselors, again using the recorded interview as the basis for discussing the case.

Consistent with the philosophy of the Center is the extent to which the responsibility for the improvement of the counselor's skills is left up to him. He decides whether he will record and whether he will discuss cases with more experienced counselors. Also, because no records of the content of interviews are required of any of the Center's cases, how much supervision and evaluation a counselor receives is determined by the counselor himself.

A somewhat unique institution has evolved in the Center called the "Staff Seminar." Once a week the entire staff, including some of the office personnel, meets for an evening's discussion of any problem of concern to the group. Its uniqueness derives from the fact that most often the meeting is completely unstructured as to the discussion topic and there is never a leader. The group simply assembles and each person is free to express to the group whatever he feels the need to discuss or have discussed. Interestingly enough, the discussions have ranged from the highly abstract and theoretical, such as attempts to define "the self" or to define

insight in terms of learning theory, to the highly concrete and practical, such as attempts to improve the reception of clients or to set up research procedures. It is the unanimous feeling of the staff that this kind of a group procedure has significant application to many different organizational set-ups. The staff seminar has fostered feelings of group belongingness; it has stimulated creative thinking; it has helped to bring out in the open the inevitable feelings and attitudes produced by the day-by-day frictions and frustrations of any organization; it has fostered group participation and group responsibility; and it has been a real educational experience for all members of the staff.

RESEARCH

The Center offers unique opportunities for research in view of its large number of clients, the wide range of problems presented by its clients, and its facilities for extensive recording of interviews. Several research projects have been completed and some are near completion. Sufficient time has not elapsed since the establishment of the Center to realize the fruits of a large number of completed research projects. Completed research and research in progress might be grouped in the following categories: analysis of changes in client responses in individual therapy and in group therapy; analysis of changes in the client's concept of self in individual therapy; analysis of changes in personality of students during counseling training; counselor selection and evaluation; investigation of group dynamics in group therapy; investigation of the relation between counselor personality and characteristics of his counseling methods; follow-up studies.

The most extensive project is one in which the entire Center staff is cooperating. This research involves the random selection of a sample of clients, who then are asked to take a battery of personality tests before counseling. Their counseling interviews are completely recorded with their approval. Then they are given the same battery of tests immediately following counseling and again six months to a year later, along with a follow-up interview. Ten such cases are completed and several others need only the follow-up tests and interview. For the interest of others planning similar research, the cost of such a project should be mentioned. An overall estimate of the cost of carrying one case through the entire process has been computed,

taking into consideration the cost of the recording tapes, the labor costs for the transcription of the tapes, the editing and final typing of the interviews, and the costs for paper and other supplies. This cost varies between \$150.00 and \$250.00 for an eight-interview case. Such an ambitious research project is at the same time a very expensive one. In addition to present research the Center is hoping to obtain funds for research on the effect of non-directive counseling with special groups such as psychotics. It is planned, of course, to conduct this kind of research within an institution and with the cooperation of psychiatrists.

The Center also is making considerable progress towards the investigation of group therapy. Several series of group therapy sessions have been recorded in full. One completed research project is an analysis of several recorded sessions from the frame of reference of changes in the individuals in the group. Another study in progress is an analysis of different kinds of group sessions from the frame of reference of group dynamics. Finally, the Center has been cooperating with several persons in the Department of Education who are carrying out studies to evaluate the results of applying non-directive principles in classroom teaching. In these latter studies, changes in student attitudes and behavior, amount of learning, and changes in teacher attitudes and methods are being measured.

CONCLUSION

An attempt has been made to describe briefly the varied functions of the Counseling Center at the University of Chicago: counseling, training, and research. Much has already been written about the basic principles of non-directive or client-centered counseling. Many cases counseled by non-directive methods have been published. Little has been published, however, to describe just how this method of counseling is applied in a clinical setting. It has not been apparent to many how this type of counseling would work in an actual situation—how it would fit in with testing, with diagnosis, with case reporting, with referrals. It has been the purpose of this paper to describe how one group has attempted to work out some of these problems. If the effective application of this kind of counseling can be attributed to any one thing, it would be the consistency with which the philosophy underlying non-directive counseling has been applied to all of the activities of the Center.

THE NEED FOR RESTANDARDIZING ALTERED TESTS

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AND

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THE value of any psychological test is directly dependent upon its validity, reliability, and the accuracy of its norms. Generally, it is the responsibility of the author to determine the validity and reliability of the test and, in cooperation with the distributor, to establish its norms. It is definitely the publisher's responsibility to report accurately the coefficients of validity and reliability and to distribute the test as it was standardized, making no changes without investigation to see if the test is altered by the changes. Practically all tests used by professional workers are purchased from distributors and the norms provided for the tests must be accepted by the workers. The responsibility assumed by distributors is, therefore, great. It is the purpose of this paper to cite an investigation of the Crawford Tridimensional Structural Visualization Test, which for some reason was changed by the distributor, but for which no new norms were provided.

The Crawford Tridimensional Structural Visualization Test is a formboard test which, in the words of the authors, is designed to measure the "ability to accurately and rapidly visualize the spatial relations of irregular shapes". It is specifically intended as an aid in the selection of potential draftsmen and is also considered to be of value when selecting for such occupations as designing, pattern-making, engineering and other occupations wherein this special ability is a factor (1).

The test consists of nine irregular pieces which fit together in a baseboard to form a circular block which is flat on top. Only one arrangement of the nine pieces is possible. The time taken for the complete assembly of the test is the examinee's raw score. By means of norms, the raw score can then be changed to either a standard score or a percentile score. As originally constructed and distributed, the nine pieces and the baseboard were made of heavy aluminum. It was this form of the test which was standardized and for which norms were provided.

The Crawford Test was used as a part of the testing battery at the Rochester Institute of Technology Veterans Counseling Center. A second test was purchased to meet the demands of an increased counseling load. The test received was constructed of wood instead of metal. The norms provided, however, were the same as those for the original test. Shortly after the wooden form was put into use, psychometrists reported that examinees tested on it seemed to take longer in assembling the pieces than did the examinees tested on the metal form. Because of this impression the investigation herein described was conducted.

The time (in seconds) to assemble the pieces was recorded for 431 persons taking the metal form and for 403 persons taking the wooden form. The form to be given any examinee was randomly determined by means of the following procedure. One form of the test was administered by a group of psychometrists for an entire week. During the same week, a second group of psychometrists administered the other form of the test. The following week psychometrists switched the forms. This alternation from week to week continued throughout the investigation. The reason for doing this was that psychometrists were assigned to administer tests for particular counselors and there was a tendency for counselors to handle certain types of counseling cases. This procedure matched the groups better.

The two groups were composed of male veterans applying for counseling under P.L. 346 and P.L. 16. Of the group taking the wooden form, 43 per cent were veterans applying under P.L. 16, and of the group taking the metal form, 42 per cent were P.L. 16 cases.

The data for both groups were put into frequency distributions and were statistically compared by use of both the mean and median. The median was used as well as the mean for two reasons: (1) both distributions were positively skewed; and (2) at the upper end of the distributions there were

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A Psychological Research Exchange¹

To the Editor:

When a psychologist publishes an experiment, he states explicitly all the conditions that he thinks are relevant and hopes he has got them all in. Thousands of other concomitant events he hopes are irrelevant. The way to find out whether his specification of conditions is adequate is to have the experiment repeated in another laboratory by another person who has had no communication with the original research except by what is printed in the published account. If the second man gets the same result, the presumption is greatly increased that the printed account is adequate.

Irwin, in urging exchange of experimental subjects (Amer. Psychologist, March 1948) misses the point that he is varying two parameters at once. If *A* gets certain results with class-*a* subjects, and *B*, at *A*'s behest and using *A*'s written specifications, gets different results with class-*b* subjects, how can you tell whether the difference as found is due to difference in the subjects or due to the fact that *A*'s specifications were inadequate and that there was a change of some as yet undiscovered condition from *A*-in-his-setting to *B*-in-his-setting?

Edwin G. Boring
Harvard University

"In Press"—A Proposed Service to Psychological Researchers

To the Editor:

It is a truism that optimal progress in scientific research is dependent upon the free communication of the findings of researchers. Certainly, it follows that any procedure which hampers or retards that communication is a deterrent to that progress. These days, American scientists take rightful pride in the realization that theirs is a community which provides suitable avenues for unfettered publication of their findings with one or two possible exceptions in areas of military security.

In such a free and progressive situation it is unfortunate, however, that prohibitive costs or other practical considerations should prevent the immediate publication of research findings. Today it is reported that most of the American psychological journals are virtually overloaded with manuscripts worthy of publication and are considerably pressed for space. The idyllic picture of progress is somewhat dimmed as we admit of "publication lags" as long as one year for several of our important journals.

Thus, American psychologists, while they surely are

¹ Beginning with this issue, the format of articles appearing in the *Comment* section is being changed. Titles are reduced, a smaller type size is used, and the notes are presented in the form of letters to the editor. These changes, proposed by Edwin G. Boring, are made in order to encourage more informal comments on topics of general interest.

Brief, pithy comments are invited on APA policies, committee reports, previous articles, or other matters of interest to APA members. Acceptable notes will be published as soon as possible after receipt. Proof will not be sent to the author. No reprints will be made.

The editor will condense any note at his discretion. The articles appearing in this month's *Comment* were received before these editorial policies were announced. They have not been shortened.—Dael Wolfe

free to communicate their experimental results, must wait for varying periods of as long as, or longer than, one year before the centimeter by which they have pushed science ahead is measured by their colleagues. This is obviously and ominously a reciprocal process. The experimenter embarking on a special project may be completely unaware that there is resting silently in the files of one of our journals a paper critically related to his own research that is scheduled for publication one year from now.

It is the purpose of this note to admit of this restrictive situation and to suggest a means of dealing more effectively with it.

We propose that all titles of papers accepted for publication by psychological journals be made known to researchers who may then communicate with the authors for more "pre-publication" detail if they so desire.

One solution is that the editors of the various journals publish with each issue a late list of titles that they have accepted during the past month, quarter or half-year. In view of the fact, however, that many of our journals are quarterlies or bi-monthlies it would seem more advisable for the editors to submit monthly lists of such titles to a single compiler who could arrange them according to field of research, and distribute them in the form of a separate. He might also append to the title the expected date of publication and, of course, the name of the journal in which it will appear.

This latter procedure seems even more effectual when we consider that most researchers do not subscribe to all journals, and that some critical titles may be overlooked if they do not appear in a reader's favorite journals. Bearing only the information that has already been mentioned, such lists, incidentally, might be preserved for future bibliographic reference. Furthermore, since the lists will enable experimenters to present at least the

titles of their pending publications, it is conceivable that in some cases the problems of "prior publication" will be obviated.

The present writers have seriously entertained the notion of securing the necessary cooperation of the various editors, and distributing the compiled lists at their own expense, but the cost is frankly too much to bear. At least two possibilities remain: (a) that some already-established psychological institution undertake the project (the lists might make an appropriate circulation for the Psychological Research Exchange proposed

by Irwin in the March American Psychologist, should such an institution be realized), or (b) that a sufficient number of interested researchers make known their desire to pay for the cost of such a periodical themselves while the present authors will give their own time and energy to the undertaking. The writers will welcome any comments or further suggestions.

V. R. Fisichelli,
Hunter College
Regina Molloy Fisichelli,
Brooklyn College

Prior Publication

To the Editor:

When more papers are received than a magazine can publish, the time lag becomes increasingly long between receipt of manuscript and publication. Three solutions to this situation are apparent.

First, *Increase the number of publications.* This has occurred already and is likely to occur again. The more the number of publications the less chance any psychologist will see them all—hence the less publicity per article.

Second, *Raise the standard of acceptability of articles.* To raise the present standards somewhat would possibly be a good thing. But the issue is not lower or higher standards as a permanent policy. Rather it is a fluctuating standard. When time lag is long, relief is obtained by raising the standard of acceptability; when time lag is short, the standard is lowered. "The editor's task of judging manuscripts will become more difficult." Should a writer's article be accepted or not depending on time lag?

Third, *Provide for early publication at author's expense.* Such an article is added to the standard size of the publication. It does not postpone the publication of any regularly accepted article. Actually it decreases the time lag for other articles because it is removed from the list of regular publications. And the subscriber receives a larger magazine for the same subscription cost. The policy will decrease the necessity for additional publications, which is a desirable end, as in the writer's opinion, we have more now than we can read.

Two arguments against early publication at author's expense are advanced. First, the editor will be tempted to publish inferior manuscripts—he will "perceive unexpected merit in the manuscript accompanied by cash". Will not an editor also perceive unusual merit in manuscripts of his own students, of those endorsing his own views, etc? The answer to this is, get an editor who has good standards and the fortitude to maintain them. Second, the author with money has an unfair advantage over the one without funds. In applying for a job he can submit a printed article and the other can not. He can also dress better, attend APA meetings and become

personally known, travel to distant points for personal interviews, etc. It's for these and many other reasons we all want money, always more than we now have. But in the specific case put forth as a reason against prior publication, it is possible for the second man to present a manuscript accepted for publication in competition against the printed one. If the latter is accepted as proof of superiority over the former just because it is printed, the implication is clear that psychology faculties are incompetent.

The issue is not whether all should have the same amount of money, it is the practical problem of how best to obtain rapid publication of acceptable articles. The best way is to increase the size of publications. The issue then becomes, who will pay for the increase, the writer of the article, a philanthropist, or the APA? If the APA does it, there will be a still further increase in dues and in subscription rates. Do we want that? Is it not better, for the time being, at least, to permit those who are willing to pay to do so? Such procedure means that the publication of no other manuscript is delayed, in fact, it may be advanced since the paid manuscript is removed from the list. In fairness to all, the date of receipt of each manuscript should be published with the article.

Edward K. Strong, Jr.
Stanford University

To the Editor:

So far as the *Journal of Applied Psychology* is concerned the demand for "early publication" has come from established governmental, business, and industrial psychologists (15 articles in 1947); from one of the most active university research centers in applied psychology (6 articles in 1947); and, for the most part, from men with established reputations in major universities (7 articles in 1947). This is a total of 28 early publication articles. These were added to the 52 articles published in regular turn which filled the budgeted number of pages possible for the 1947 volume.

Thus, instead of 480 pages, the subscribers received a volume consisting of 664 pages. And the lag in publi-

cation was reduced from the 12 to 15 months hitherto prevailing, to 6 to 8 months which will prevail during the first half of 1948. Furthermore, had it not been for these 28 early publication articles, together with the 16 prior publication articles printed in 1946, the lag in publication would now be from 18 to 20 or more months. The present policy, therefore, would seem to benefit everybody concerned: authors, subscribers, and the APA membership which owns and operates the *Journal of Applied Psychology*.

Donald G. Paterson
University of Minnesota

To the Editor:

I am astonished at the weakness of the arguments set forth in the March issue for and against prior publication, and have re-read them to see why they are not more convincing.

The statement opposing the policy is weakened by frequent use of emotionally charged words: impecunious, affluent; injustice; an objectionable case of favoritism; undemocratic; the jingle of cash; sin; the illegitimate baby is so tiny; the haves and the have-nots. This tends to create an impression—doubtless incorrect—that the writer was too indignant about something or other to limit himself to facts objectively ascertained, clearly stated, without affect.

But the style in which the statement was written is of minor moment. The main trouble is that the argument rests on a false premise, namely, that scientific journals exist not for the benefit of the readers, but of the contributors! The statement of the case for prior publication is similarly weakened by the writer's partial acquiescence in that incorrect assumption.

Subscribers want better articles and more of them, available as soon as feasible after completion. How can the American Psychological Association facilitate satisfaction of this need? That is the nub of the question.

The 5,000 members of the APA are the proprietors of our journals. Certainly! Why do we publish them? Because we want access to their content. We want this content for our own use. We want it for others including our advanced students and our colleagues in related disciplines like psychiatry, physiology, business administration, social work and education. This defines the primary population whose needs these journals exist to serve. In comparison, the psychologists—possibly to seven hundred in number—who during the course of a year submit articles for publication, are a numerically tiny minority. Let's advocate no policy contrary to the genuine interests of the reader-owners. The interests of contributors, too, should not be forgotten, but they are secondary.

On my desk are two of our long-established journals. One of these has not adopted the policy of prior publication. Its price is \$5.50 a volume. In 1947 the sub-

scriber purchased for this sum 352 pages carrying 31 articles. Among them are six necrologies, doubtless solicited. Of the 25 other articles, three are listed under joint authorship. The number of psychologists to whom this journal provided an avenue for publication of scientific papers during 1947 is 30. This is close to 1/100 of the subscribers, 3,290.

Here also is a prior-publication journal with a circulation of 3,090, subscription \$6.00, number of pages 552, articles 80, many of them short; also some book reviews. Using a different typography and a smaller page than the other journal, the contents of a volume nevertheless bulk about 50 per cent more.

How about quality of content and eminence of contributors? The first journal publishes mainly substantial articles by some of the most distinguished members of our profession, whereas a relatively larger proportion of the contributors to the other journal are currently not so well known or are on the make. There are, however, few articles in either journal which practitioners of the psychological profession can afford to ignore.

What is the status, professional and economic, of the 110 authors who contributed to these two volumes? Without prying, one may designate two groups: those who have achieved a relatively permanent status such as a university chair or an industrial post of similar responsibility; and those less firmly rooted whose academic status is not above that of an instructor, or whose position in an industry, a clinic, a hospital or a school is that of an assistant to someone else, be he physician, psychologist, employment supervisor or management engineer. This second category probably includes most of the young and ambitious but "impecunious" contributors.

Among the authors of articles in the 1947 volume of our non-prior-publication journal I found not one who could qualify for category 2, with the possible exception of the junior collaborators in one article.

Not so with the prior-publication journal. It had found space for a goodly number of articles by junior psychologists, including fledglings who may for all we know qualify as impecunious. Would the contributors in that category have been still more numerous if this journal had been following a policy of no prior publication? I wonder. Its editor would have had only two-thirds as many pages at his disposal.

The crucial question, however, is not, "How does this policy affect contributors?" It is, "How would the interests of readers be affected by a substantial shrinkage in the amount published, coupled with a lengthening of the average lag between acceptance of an article and its appearance?"

Protracted delays in publication are certainly of no benefit to subscribers. Some articles smell after being long in storage. The reader no less than the author suffers when printing is deferred. For instance, Psychologist K had sent back final proof of an article de-

scribing experiments on which he had spent six diligent months, when one of his associates drew attention to a report of similar research, just published. This report had been held up nearly a year for lack of space. Had it been printed within three months of acceptance, readers would have had access to it much sooner and the entire design of K's investigation would have been altered for the better.

Most psychologists would, I suspect, prefer to discuss adoption of a policy which would encourage each of our journals to offer the prior-publication facility whenever the lag in publication of its accepted manuscripts exceeds six months. Some have even advocated that the Association subsidize prior publication of articles deemed to be exceptionally timely and important, irrespective of the author's readiness to buy the needed space. Others have suggested appropriation of funds to subsidize

prompt publication of significant contributions by young psychologists. Society has long made available scholarships and fellowships for the exceptionally promising. Suppose the APA were to furnish space for prompt printing of their first two scientific papers?

When discussing such suggestions we must not again forget that scientific periodicals exist primarily in the interest of readers. Our prior-publication journals have benefited thousands by furnishing them with forty or fifty per cent more content at no added cost either to subscribers or to us, the owners. Nor need the fact be overlooked that this policy has, incidentally, helped a good many contributors—particularly the younger, less well-known authors.

Walter V. Bingham
Washington 9, D. C.

On the Committee vs. the Scientific Approach to Problems of Professional Training.

To the Editor:

The recent committee report on the "Recommended graduate training program in clinical psychology" (*Amer. Psychologist*, 1947, **2**, pp. 539-558) is admirable of its kind. I appreciate that circumstances may occasion the issuance of a report earlier and in different form than the Committee might otherwise desire. But the issues here touched on seem worth raising even if not legitimately in criticism of this report. I venture the judgment that in a very important respect its kind is outmoded, and its basic method unfortunately at variance with the admirable record of psychology during World War II in furthering an approach to training problems based on systematic empirical investigation of them. More specifically, the following issues may serve as illustrative.

(1) A desirable early step in developing a training program would seem to be a survey of the present status of positions in the field, and of need. That such data might have bearings is suggested by the findings of Bryan and Boring that in pre-war 1940 more psychologists (424) were employed by schools and educational systems (and it seems a fair guess that most of these were for the most part doing clinical work) than by clinics and guidance centers (215) and hospitals and custodial institutions (146) combined (*Amer. Psychologist*, 1946, **1**, pp. 71-79). The data cited here are for both sexes. Possibly the Committee meant to exclude psychologists in schools, though to do so would seem unfortunate. But in any case such data on status and need would seem desirable.

Further, any attempt at investigation of need would very likely have yet more emphasized needs in the schools, as shown for instance by the great number of schools without any psychological service. In consequence of these neglects, no mention is made of the possible value, in training a clinical psychologist, of work in

pupil personnel, educational guidance, or special education, or of experience clinical or otherwise in a school—except the mention that as an undergraduate a student might have "approximately six semester hours in the fundamentals of educational philosophy, and experimental didactics in the form of practice teaching." Surely this extraordinary statement (reminiscent of the *pedageese* of 50 years ago) does not give the Committee concept of modern teacher education, or mean that it thinks there is anything genuinely experimental about practice teaching! An initial systematic inquiry regarding peace-time status and need in clinical psychology should broaden the thinking about types of positions to be trained for, and lead to more adequate consideration as to what related fields really had to offer.

(2) A central step in the development of a sound training program would seem to be a careful job analysis. Yet there is no mention of Shartle's study of "Occupations in Psychology" (*Amer. Psychologist*, 1946, **1**, pp. 559-82) nor recognition of such an approach to professional training problems. Shartle would doubtless be the first to admit the inadequacy of his material. But surely there can be no serious disagreement with the principle that careful systematic study of what is done in a particular type of work should be one basis in planning training for that work.

(3) Presumably a realistic training program would take account of carefully gathered evidence as to how programs to date actually have worked. The Committee's plan apparently presumes that not later than the beginning of the junior year the student makes the Great Decision; thereafter for six uninterrupted years he follows a straight and narrow path which then with a neat accuracy (the concept is reiterated that this is a four-year graduate program) achieves the doctorate. But *do* most graduate students have undergraduate

majors in psychology? Do students thus follow straight through, and should they? Will such a graduate program actually be completed in four years? The writer has presented some evidence that, in one large mid-western university before the war, median time of residence for the doctorate was four full years and elapsed time from beginning graduate work to the doctorate, six years (*Amer. Psychologist*, 1946, 1, pp. 324-329). And internships were not included. Suppose most students don't have undergraduate majors in psychology, can't go straight through, take four years for a three year program—and then the Committee both enlarges the scope of the training program and adds a year of internship. Two years more may well actually be taken by many students.

Before the war (as mentioned in the above paper) median age of receiving the doctorate was twenty-nine. The report well emphasizes that the clinical psychologist should be a "well-adjusted and attractive personality" and that clinical psychology should "seek to increase the mental well-being of the individual," and should take account of human development and change throughout the life-span. Suppose two years are added to the pre-war doctoral program at a time when most graduate students are about four years delayed educationally by the war. Is it conducive to well-adjusted personalities, and to maximal professional productivity in view of the research on age of maximal productivity, if training programs become of such length, and their completion delayed until close to thirty-five? It seems ironic that a report by clinical psychologists on training in that field should give no consideration to such issues.

(4) Psychology has attempted to investigate the ad-

justment of training programs to the trainee, and to improve that adjustment. Yet no mention is made of the Britt and Morgan inquiry of psychologists regarding various features of professional training (*Amer. Psychologist*, 1946, 1, pp. 423-37). Thus the committee seems to have plumped unanimously for the conventional language requirement, without any consideration of the attitudes expressed in the above paper, or sundry other investigations of the problem.

In short, it hardly seems too harsh to say that, as regards its method of attacking its problem, the committee shows little advance over what might have been done thirty years ago, or by a committee of historians or geologists in considering their problems of professional training; the committee sat back in its easy-chairs, and formulated a pronouncement. And it is not alone in so doing: The Policy and Planning Board has issued an ex-cathedra dictum against the master's degree, again without any investigation of need or actual practice (as well emphasized by Darley, Elliott, Hathaway and Paterson in the February *American Psychologist*, Shartle's data indicate that sundry positions may be filled by persons with such training). The Board of Examiners seem not to have included in its purposes the investigation of either its problems or the outcomes of its work. Surely psychologists, now, should try to deal with their professional problems on the basis of scientific study of them, not simply committee discussion. This note is to raise this issue; as the Association increasingly takes important steps, and makes use of committees and boards for that purpose, it seems especially important that consideration be given to the mode of their operations.

S. L. Pressey

The Ohio State University

RESTANDARDIZING ALTERED TESTS (continued from page 172)

extreme cases which were arbitrarily lumped at levels to include five per cent of the populations (2).

The mean time for the wooden form was 182.5 seconds (S.D. = 102.0) and the median time was 131.6 seconds. The mean for the metal form was 139.7 seconds (S.D. = 81.0) and the median was 99.8 seconds. The critical ratio of the difference between the means was 6.7 and between the medians was 4.8. Thus, the difference appears to be statistically reliable at the one per cent level of confidence.

The results of this investigation demonstrate that the two forms of the Crawford Test are not comparable, the wooden form being more difficult. The norms for the metal form are, therefore, not applicable when the wooden form is used. One suggested reason for the difference between the two forms is that the pieces of the wooden test fit together more loosely than those for the metal test

and because of this poor fit the examinee is not sure that he is arranging the pieces properly.

The authors realize the difficulty which publishers must experience in securing sufficient cooperation to carry on all necessary investigations of psychological tests. This study, however, points out their necessary obligations: (1) to provide norms which are accurate for every test; and (2) to establish new norms for any altered test which is not strictly comparable to the original.

REFERENCES

1. CRAWFORD, JOHN E. AND DORATHEA M. Manual for Crawford tridimensional structural visualization test, 1940.
2. GARRETT, H. E. Statistics in psychology and education. Third edition. New York: Longmans, Green and Co., 1947.



DAVID SHAKOW

Professor, Department of Psychiatry, College of Medicine, University of Illinois
Chief Psychologist, Illinois Neuropsychiatric Institute
Chairman, Committee on Training in Clinical Psychology
President, Division of Clinical and Abnormal Psychology

Across the Secretary's Desk

THE 1948 APA DIRECTORY

When will the 1948 Directory appear? We do not know. It is printed; the one remaining problem is to get it bound. According to present schedules, it is expected to be finished and mailed about May 20.

Because the book is much thicker than any of its predecessors, it has to be bound in hard covers; paper covers would not wear well enough. There are 1281 Fellows and 3766 Associates listed in it. Approximately 66 per cent are men; 34 per cent are women. The 780 new Associates who were elected in March 1948 are, of course, not included.

We have changed the name. In the past we have printed *Yearbooks*. This will be a *Directory*. A major reason for the change is that this type of directory cannot be published every year. It costs too much. With biographical information about the members, a geographical index, lists of division members, and the APA By-Laws, the directory has 438 pages. Collecting and preparing the information, printing and binding, and finally, mailing out the copies will add up to a total bill of close to \$20,000.

We cannot afford a full-scale directory every year. Present plans call for a directory of the names and up-to-date addresses of APA members in the years when a full directory is not printed. That will have the disadvantage of sometimes making it necessary to look up a member in two places, one for information about his education and experience and another for his current address. The interim directory will be more useful, however, if members can use their institutional rather than their home addresses.

Psychologists with books of their own to publish will appreciate the details of the printing of the 1948 Directory:

When the questionnaires were mailed to APA members last year asking for biographical information, no printer had been engaged for the proposed directory.

A month later three different printers had located the necessary paper and had submitted bids. One with experience in printing directories and yearbooks was chosen.

In November we began mailing copy to the printer to be set in type, but by December 15, no typesetting had been done. The printer was by that time so rushed that he could not do the job himself

and had subcontracted it. The subcontractor did not have the right kind of type. In the face of these difficulties, I believe they were relieved to have us cancel the arrangements.

By January 1 we had written another contract with Boyd Printing Company, who also prints the *Journal of Abnormal and Social Psychology*. They had never printed a directory before. Nevertheless, it was comforting to be dealing with one of the five regular APA printers.

January in New York was unprecedentedly cold and rugged. Flu hit the Boyd plant.

Boyd in February and March made rapid progress. On April 6, the last of the page proof had been read and had left the APA office. This date was only 22 days behind schedule (the second schedule). Boyd told us that the binder they had engaged estimated a minimum of five weeks for his part of the work.

This series of delays makes an unhappy tale but not a unique one. During the past year we have accepted a number of advertisements of forthcoming books with the date of publication included, such as "Publication in March." When the publisher corrected proof on his ad, frequently he changed the phrase to read something like "Probable Publication in May." We think now that the Directory will be out in May, but our fingers are crossed, hoping that it will not be necessary to announce next month that the publication date has been postponed.

WANT ADS FOR OUT-OF-PRINT JOURNALS

In the last month an unusual number of suggestions have come in, asking why we do not have want-ad columns. To ascertain the popularity of this feature, let us plan a test case: the first ten advertisements for wanted psychological journals will be accepted for the Notes and News of the June issue. Such ads may please those who are collecting complete sets and obtain buyers for those who are not. For the present trial, the want ad must concern an issue now out of print; "*Back Numbers Available*" are listed on the cover pages of the various APA journals. The usual price is double the original one. We will publish the name and address of the person who wants the issue, and he will deal with the correspondence. He may be snowed under; he may get no offers. For our part, we would like a report from the ten, if there are ten.—HELEN WOLFE.

Psychological Notes and News



B. F. Skinner

The Midwestern Psychological Association announced the election of B. F. Skinner as president for 1948-49 at their annual meeting on May 7-8th.

Pendleton Herring has been appointed head of the Social Science Research Council. He succeeds **Donald Young** who has been named general director of the Russell Sage Foundation. Dr. Herring was previously an officer of the Carnegie Corporation of New York, where he was particularly active in the social science and international relations aspects of the Corporation's program.

In February **Paul Bowman**, formerly on the staff of the Counseling Center at the University of Chicago, joined the staff of the department of psychology at the University of Louisville.

Margaret Kraemer has joined the staff of the (Chicago) Psychological Institute as play therapist.

Marion E. Bunch, professor of psychology at Washington University, St. Louis, has been appointed professor of psychology at the University of Illinois.



Otto Klineberg

The Eastern Psychological Association announced the election of Otto Klineberg as president for 1948-49 at their annual meeting on April 16-17th.

Agnes T. Landis has recently moved to New York City to accept a position as clinical psychologist in the Mental Hygiene Service of the Veterans Administration. She was formerly assistant professor of psychology at Newcomb College and the Tulane University Graduate School.

Hulsey Cason has resigned his position as research and clinical psychologist in the USPHS and is now professor of psychology at the University of Miami, where he will teach experimental and general psychology.

E. Lowell Kelly, University of Michigan, will spend the summer in California, where he will be a visiting professor at UCLA.

Robert W. Leeper, associate professor, University of Oregon, and **Hans Wallach**, associate professor, Swarthmore, are among the 112 scholars, scientists,

and artists named as recipients of Guggenheim Fellowships for 1948-49.

Haldan Keffer Hartline, associate professor of biophysics at the Johnson Foundation, University of Pennsylvania Medical School, was awarded the Howard Crosby Warren Medal by the Society of Experimental Psychologists. The award was made at the forty-fourth annual meeting of the Society held at Bryn Mawr College on March 26. Dr. Hartline received the medal "for his study of the processes of light and dark adaptation in single photoreceptor elements."

L. L. Thurstone and **Thelma Gwinn Thurstone** are two of a group of faculty members of the University of Chicago who are spending the spring quarter at the University of Frankfurt, Germany. They plan to attend the International Congress of Psychology before returning home.

The Psychological Corporation announces the resignation of **Jack W. Dunlap** as Director of the Division of Bio-Mechanics as of March 1, 1948. **John D. Coakley** has been appointed acting director of this division to replace Dr. Dunlap, who has joined the new organization of Dunlap, Morris and Associates, Inc., located at 152 West 42 Street, New York 18, New York.

The Harvard University Department of Social Relations announces the following new appointments: **C. Frederick Mosteller**, associate professor of mathematical statistics; **Jerome S. Bruner**, associate professor of social psychology; **Leo Postman**, assistant professor of social psychology; and **William O. Jenkins**, lecturer on social psychology. In addition, the four hold appointments as research associates in the Laboratory of Social Relations. **Richard L. Solomon**, assistant professor of social psychology, has been appointed associate director of the Laboratory.

At Brown University, **Lorin A. Riggs** and **Carl Pfaffmann** have been promoted to associate professorships and **John K. Bare** to an assistant professorship. **William A. McClelland** has been appointed assistant professor; he was formerly at the University of Minnesota. **Gerald R. Pascal**, chief psychologist at Butler Hospital, has been appointed lecturer.

At the University of Hawaii, **T. W. Forbes** was appointed chairman of the department of psychology

on April 1. **Thayne M. Livesay**, the former chairman, is dean of the College of Arts and Sciences as well as remaining a professor in the psychology department. **W. Edgar Vinacke** and **Doris V. Springer** are now assistant professors, and **Leslie Briggs** has been appointed an assistant professor beginning next September.

Dean **Bruce White** and **Harold M. Bitner** of the Office of Student Personnel teach some courses in the psychology department. **Colin J. Herrick**, psychologist, **Sidney L. Halperin**, associate psychologist, and **Helen E. Peixotto**, assistant psychologist of the University's Psychological and Psychopathic Clinic, also teach in the department.

Henry E. Garrett of Columbia University and **Oswald Black** of Natal University, South Africa will be visiting professors during the coming summer session.

The University of Tennessee has been expanding its staff and facilities in psychology during the post-war period and is now offering the PhD in psychology. The graduate staff consists of **Axel Brett**, head; **Ruth Bishop**, **James H. Elder**, **Raymond A. Katzell**, **Benjamin B. McKeever**, **E. Ohmer Milton** (on leave of absence, 1948-49), **T. Ernest Newland**, **E. Llewellyn Queener**, and **Wilse B. Webb**, at the Knoxville campus. In Memphis, the following members of the department of psychiatry, University of Tennessee College of Medicine, collaborate in the graduate program in clinical psychology: **T. S. Hill, MD**; **Hudson Jost, PhD**; **C. J. Ruilmann, MD**; and **William J. von Lackum, MA**.

The university has recently been authorized to train clinical psychologists for the VA.

At the Menninger Foundation, Topeka, **Robert C. Challman** became director of the psychology division on March 1. He replaced **Margaret Brenman**, who will continue on the staff in an advisory capacity until July 1 when she will join the staff of Austin Riggs Foundation in Stockbridge, Massachusetts. Also joining the Riggs Foundation is **David Rapaport**, at present general director of the research department. He will be succeeded by **Sibylle Escalona**. Other staff changes in the psychology division include the promotion of **Walter Kass** to assistant director and chief of adult testing; **Dorothy Sutton** to chief of infant and child testing; and the addition of **Bernard Steinzor** as assistant psychologist.

A Rorschach Workshop at intermediate-advanced levels will be conducted by Marguerite R. Hertz on June 15-25. It is sponsored jointly by the Departments of Psychology, University of North Carolina and Duke University. The course will afford both graduate academic and Rorschach Institute credit. A fee of \$45.00 is charged. Further information may be obtained from either James W. Layman, University of North Carolina, or Donald K. Adams, Duke University.

A Rorschach Workshop will be held at Michigan State College during the week of July 26, 1948 with Samuel J. Beck as lecturer. Inquirers should be addressed to Harold H. Anderson, Department of Psychology, Michigan State College, East Lansing, Michigan.

A Guidance Workshop and Conference is being sponsored by the College of Education of Ohio State University from July 12 to 30, 1948. The Workshop carries 4 hours credit, and is open to qualified persons with an AB degree. Application should be made before June 1 to F. M. Fletcher, Director of the Guidance Workshop, The Ohio State University, Columbus 10, Ohio.

Survey Research techniques will be studied in two special four-week sessions at the University of Michigan, the introductory session being from June 21 to July 17 and the advanced session from July 19 to August 13. Courses will cover survey research, sampling methods, statistical analysis, questionnaire construction, interview technique, and coding methods. The staff will include Rensis Likert, Angus Campbell, Charles Cannell, Roe Goodman, George Katona, Daniel Katz, Leslie Kish, Eleanor Maccoby and Charles Metzner of the staff of the Survey Research Center and Morris Hansen, William Hurwitz and Benjamin Tepping of the Bureau of the Census. All courses are offered for graduate credit.

A Szondi Workshop will be conducted by Susan K. Deri at Western Reserve University during the week of June 14th.

The Moreno Clinic of Beacon, New York announces seminars in psychodrama, sociodrama, and other action methods as they apply to education, child guidance, intercultural relations, family and marriage problems. Each training course lasts for four weeks, beginning June 1 and ending October 31. In addition, a national conference to be held

May 28-30 at the Therapeutic Theatre in Beacon "is dedicated to Action Methods and the Training in Human Relations."

The International Congress for Applied Psychology has had to be postponed to the summer of 1949. Franziska Baumgarten-Tramer, general secretary, will be grateful for any assistance that can be given her by her American colleagues.

Travel folders have been distributed to many APA members describing in detail an all-expense, three-week air trip for slightly over \$800 to the 12th International Congress of Psychology at Edinburgh. Travel and hotel reservations are becoming harder to obtain because of the coming Olympic Games in England. Sufficient reservations have been made so that a few APA members and their families can still be accommodated in this group. Interested psychologists should write to Dr. Robert W. Burnham, Color Control Department, Eastman Kodak Company, Kodak Park Works, Rochester 4, New York.

The new officers of the Southern Society for Philosophy and Psychology are: president, Harold N. Lee, Newcomb College; secretary, John B. Wolfe, University of Mississippi; treasurer, James A. Pait, Emory University; new members of the council, Louis O. Kattsoff, University of North Carolina, James Elder, University of Tennessee, and Joseph Weitz, Newcomb College.

The Louisiana Psychological Association was organized on March 6th in Lafayette, Louisiana. The By-Laws are patterned after the recommendations for state associations as given in the American Psychologist for March. Officers elected are: president, E. T. Prothro, Louisiana State University; vice-president, Dorothy W. Seago, Newcomb College; and secretary-treasurer, Kenneth B. Hait, Southwestern Louisiana Institute.

The members of the Division of Personality and Social Psychology have voted to make it mandatory that Fellows in other divisions come into their division at the rank of Associate, and make application to transfer to the higher rank; and that the candidates must have made substantial contributions beyond the doctorate in the field of interest of the Division of Personality and Social Psychology to be elected to the status of Fellow.

The members of the Division of Military Psychology have passed by a 3 to 1 majority of all those voting (and a majority of 61% of all members whether voting or not) the following three amendments:

1. Fellows of the Military Division in the future must submit evidence of acceptable publication beyond the PhD thesis in addition to the five years of professional experience demanded by the APA.
2. Associates applying for elevation to fellowship must exhibit evidence of current interest and participation in military psychology.
3. Members transferring in grade and meeting the above requirements can be elected by unanimous vote of the membership committee.

For the current year of 1947-48, the Division of Counseling and Guidance Psychologists have elected the following officers: president-elect, Hugh M. Bell; member-at-large, Edward S. Bordin; and division representatives, Hugh M. Bell, Harold G. Seashore, Donald E. Super, and C. Gilbert Wrenn.

Applications for grants for research in the field of reproduction are invited by the National Research Council, acting for the National Committee on Mental Health. Applications to become effective October 1 will be received until August 1, 1948. The Committee will consider support of biological, clinical, economic, medical, psychological and sociological research dealing broadly with the field of human reproduction. The Committee proposes to solicit funds for its program to an amount of approximately \$200,000 for 1948-49. Communications regarding grants should be addressed to the Committee on Human Reproduction, National Research Council, 2101 Constitution Avenue N. W., Washington 25, D. C.

The National Research Council has announced a new program of fellowships supported by funds provided by the Atomic Energy Commission. Both men and women are eligible. In the postdoctoral field, there will be three groups of fellowships. Roger Adams, professor of chemistry, University of Illinois, is chairman of the board to consider the field of the physical sciences. R. G. Gustavson, Chancellor of the University of Nebraska, is chairman in the field of biological sciences, excluding the medical sciences. Homer W. Smith, professor of physiology, New York University, is chairman of the board for the selection of fellows in the medical

sciences. In the predoctoral field, fellows will be classed in two types: the physical sciences, with Henry A. Barton, director of the American Institute of Physics, as chairman, and the biological and basic medical sciences, with Douglas Whitaker, professor of biology and dean, Stanford School of Biological Sciences, as chairman. Awards will be made for the academic year 1948-49. Further information can be secured by writing NRC.

Two internships should be added to the list of those described in the March American Psychologist.

McLean Hospital, Waverley 79, Mass. Stipend, none-\$1200; also maintenance. Age, 21-40; either sex; BA required. For further information write Dr. Frederick Wyatt.

Washington University School of Medicine, St. Louis 10. Stipend, \$1000-\$2000; no maintenance. Age, 20-27; either sex; MA required. For further information write Dr. Robert I. Watson.

Correction. The internship at the Wichita Guidance Center carries a stipend of \$150 per month rather than \$150 per year. In the description of this institution's internship in the March issue, delete the letter *y* and insert the letter *m*.

Clinical psychologists, Toledo. The Child Guidance Clinic of the Juvenile Court of Lucas County has openings for clinical psychologists for diagnostic and short-time therapy. Applications should be addressed to the Juvenile Court, Toledo, Ohio.

Instructor, Texas. The Texas College of Mines has an opening for an instructor for 1948-49, to teach both introductory and advanced courses. The position is a temporary one. Applications should be addressed to Lehman C. Hutchins, Department of Psychology, College of Mines and Metallurgy, El Paso, Texas.

Psychologists, Naval Air Station, Pensacola. Several civil service openings are available for psychologists at the Naval Air Station. Those interested should write Captain Ashton Graybiel, Coordinator of Research, School of Aviation Medicine, Naval Air Station, Pensacola, Florida.

A weekly seminar in psychology has recently been organized at the Station. Psychological research will be reported by the following individuals: R. H. Brown, C. Lightfoot, H. E. Page, L. Andrus, E. E. Cureton, R. Berkshire, L. Seeley, C. P. Sparks, T. C. Karlowski, G. Passey, and W. Mahler.

Announcement of Diplomates. The American Board of Examiners in Professional Psychology has announced the award of its diplomas to 234 members of the American Psychological Association in the indicated professional specialties. These diplomas have been awarded to senior members in professional fields of psychology, on the basis of a review of individual qualifications. Because of the significance of this event, and in order to record the names of the first Diplomates, the list is reprinted here from the letter sent to APA members by the Board of Examiners on March 1, 1948.

CLINICAL

Alexander, Frances S.
Altmaier, Carl L., Jr.
Altman, Charlotte H.
Anderson, Harold H.
Anderson, Rose G.
Armstrong, Clairette P.
Arthur, Mary G.
Atwell, Charles R.
Bakes, Frank P.
Balinsky, Benjamin
Banham, Katharine M.
Bartlett, Marion R.
Beck, Samuel J.
Bennett, Chester C.
Benton, Arthur L.
Berman, Abraham B.
Bernreuter, Robert G.
Bijou, Sidney W.
Bobbitt, Joseph M.
Bolgar, Hedda B.
Brener, Roy
Bressler, Mary H.
Broomhead, Elizabeth
Brotemarkle, Robert A.
Brown, Fred
Brunschwig, Lily
Burchard, Edward M. L.
Burr, Emily T.
Calhoon, C. H.
Campbell, Helen M.
Carter, Jerry W.
Clapp, Hazel S.
Cornell, Ethel L.
Cowan, Edwina A.
Crane, Harry W.
Donahue, Wilma T.
Dunn, Michael B.
Durea, Mervin A.
Dysinger, Don W.
Ekstein, Rudolf
Elonen, Anna S.
Fateron, Hanna F.
Fernald, Grace M.
Fischer, Liselotte K.
Frankl, Anni Weiss
Freeman, Eva A.
Gilbert, Jeanne G.
Goldman, Nathan
Goldman, Rosaline
Gordon, Edna I.
Graham, Virginia T.
Grauer, David
Grove, William R.
Hackbusch, Florentine
Hales, William M.
Hall, Margaret E.
Halpern, Florence C.
Halstead, Ward C.
Hanfman, Eugenia

Harris, Albert J.
Harris, Robert E.
Harrower, Molly
Hathaway, Starke R.
Hertz, Marguerite R.
Hilden, Arnold H.
Hildreth, Harold M.
Hoakley, Zeltah P.
Honzik, Charles H.
Houtchens, H. Max
Hubbard, Ruth M.
Hunt, William A.
Ives, Margaret
Jastak, Joseph
Jones, Marshall R.
Kelley, Noble H.
Kelly, E. Lowell
Kelly, George A.
Kendall, Barbara S.
Killinger, George G.
Klopper, Bruno
Kogan, Kate L.
Kotkov, Benjamin
Krugman, Morris
Kutash, Samuel B.
Landis, Carney
Lantz, C. M. Beatrice
Layman, James W.
Leland, Lorraine A.
Levi, Joseph
Lindsley, Donald B.
Locke, Bernard
Louttit, C. M.
Luckey, Bertha M.
Macfarlane, Jean W.
Machover, Karen
Machover, Solomon
Malmo, Robert B.
Mann, Edna B.
Marquis, Dorothy P.
Mathews, Julia
Mathews, W. Mason
McCann, Willis H.
McKinney, Fred
McKinnon, Kathern M.
Meltzer, Hyman
Merrill, Maud A.
Meyer, Mortimer M.
Miles, Catharine C.
Miles, Dwight W.
Morton, James T., Jr.
Mowrer, Orval H.
Mullen, Frances A.
Murray, Henry A.
Myers, Louise K.
O'Shea, Harriet E.
Parsons, Frances H.
Patrick, James R.
Paynter, Richard H.
Pennington, Leon A.
Rabin, Albert

Reiter, Frank H.
Richards, Thomas W.
Rickers-Ovsiankina, Maria A.
Robertson, Marjorie B.
Rodnick, Eliot H.
Roe, Anne
Rogers, Carl R.
Rosenzweig, Saul
Saffir, Milton A.
Sargent, Helen D.
Schott, Emmett L.
Schumacher, Audrey S.
Seaton, John T.
Seidenfeld, Morton A.
Shacter, Helen
Shaffer, Laurance F.
Shakow, David
Sharp, Agnes A.
Silverman, Simon S.
Skeels, Harold M.
Smith, Stevenson
Springer, N. Norton
Stevens, Hazel H.
Stogdill, Emily L.
Stone, Lawrence J.
Strongin, Edward I.
Strother, Charles R.
Sullivan, Ellen B.
Sylvester, Mildred L.
Tallman, Gladys G.
Teagarden, Florence M.
Thompson, Clare W.
Thompson, Helen
Tolman, Ruth S.
Travis, Lee E.
Voth, Albert C.
Wechsler, David
Wells, Frederic L.
White, Howard R.
White, Robert W.
Whitmer, Carroll A.
Wickham, Winfield McC.
Wilkins, Walter L.
Williams, Herbert D.
Wittman, Mary Phyllis
Wladkowski, Edith
Wolfson, Beatrice N.
Yacorzynski, George K.
Yepsen, Lloyd N.
Zeigler, Thornton W.
Zubin, Joseph

Dvorak, Beatrice J.
Ferguson, Leonard W.
Flanagan, John C.
Ghiselli, Edwin E.
Hansen, C. Frederick
Harrell, Thomas W.
Jenkins, John G.
(posthumous award)
Johnson, Harry M.
Kuder, G. Frederic
Lawsh, C. H., Jr.
McMurry, Robert N.
Ray, Joseph J.
Remmers, H. H.
Richardson, Marion W.
Scheidt, Vernon P.
Shartle, Carroll L.
Thompson, Claude E.
Tiffin, Joseph
Viteles, Morris S.
Walker, Robert Y.
Wickert, Frederic R.
Witmer, Louise R.
Wolf, Ralph R., Jr.

COUNSELING AND GUIDANCE

Allen, Mildred M.
Bell, Hugh M.
Bingham, Harold C.
Croft, Lysle W.
Darley, John G.
Dickson, Gwendolen Schneider
diMichael, Salvatore G.
DuBois, Philip H.
Dudycha, George J.
Fletcher, Frank M.
Gaw, Esther A.
Hahn, Milton E.
Hoppeck, Robert
Lloyd-Jones, Esther McD.
Long, Louis
Manson, Grace E.
Manuel, Herschel T.
McDaniel, Henry B.
Murdoch, Katharine
Rosebrook, Wilda M.
Seagoe, May V.
Seashore, Harold G.
Segel, David
Speer, George S.
Swanson, Donald E.
Triggs, Frances O.
Turney, Austin H.
Watson, Goodwin
Waugh, Karl T.
Williams, Cornelia D.
Williams, Hanna M. S.
Williamson, E. G.
Wrenn, C. Gilbert

INDUSTRIAL

Achilles, Paul S.
Bellows, Roger M.
Bennett, George K.
Bergen, Garret L.
Bills, Marion A.
Britt, Stuart H.
Cureton, Edward E.

THE AMERICAN PSYCHOLOGIST

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ANNUAL REPORT OF THE POLICY AND PLANNING BOARD OF THE AMERICAN PSYCHOLOGICAL ASSOCIATION: 1948

The annual spring meeting of the Policy and Planning Board was held April 18-21, 1948 at the North Jersey Training School at Totowa, New Jersey, which for the third year offered its generous hospitality. In attendance were: Clarence H. Graham, Ernest R. Hilgard, Rensis Likert, Helen Peak, Robert R. Sears (Chairman), David Shakow, and Ruth S. Tolman. Dael Wolfe, Executive Secretary of the American Psychological Association, was also present. Darleen Weisenburger of the Executive Secretary's office acted as recording secretary. Two members, Marion A. Bills and Edwin R. Guthrie, were unable to attend.

Rensis Likert was elected chairman for the coming year.

The Board met in eleven sessions during the four days, reviewed the problems of the Association, and looked ahead to the future. Requests for suggestions of items needing consideration had been sent, as in 1947, to officers of the American Psychological Association and of the Divisions, and to the membership through an announcement in the *American Psychologist* of March 1948. The responses to these requests and the mandates given us by the Board of Directors fell within the general categories that constitute the framework for this report, which was prepared by the Board during the meeting.

INTRODUCTION

THE last few years have been a time of rapid growth and diversification for psychology. Professional opportunities have expanded enormously. To keep pace with them, vast numbers of new training, research, and service projects have had to be developed. These activities have, in turn, demanded rapid action of many kinds by the APA's committees, boards, Council, divisions, and central office. The Policy and Planning Board has found itself caught in these immediate pressures and has in its previous reports made many suggestions for immediate action. Most have been adopted; a few have been the occasion for vigorous dispute. But nearly all have had to do with current issues.

Such a situation is not conducive to reflection. And in the present hurly-burly a little reflection is badly needed. The immediate problems which confront us are ones on which policy can be handled

adequately by other agencies within the APA. Further, according to the APA By-Laws, the Policy and Planning Board is assigned the task of reviewing the working of these by-Laws in 1950. At that time, detailed matters of membership levels, divisional structure, and the like, will be given full consideration. In the meantime, if we are to avoid waste effort, overlapping functions, and general confusion, the APA must keep its bearings in relation to long-time trends.

PSYCHOLOGY'S RESPONSIBILITIES

Much of the Board's discussion centered around three questions: Who is responsible for the development of psychology? What are psychology's major responsibilities? To whom is responsibility owed? Generalized answers to these questions were sought as a basis for considering such specific problems as membership requirements, accreditation, and inter-professional relations.

These are the generalized answers on which the Board's discussions of specific problems were based:

Who is responsible? There are people who, because of their common training and the common elements in their professional work, think of themselves as psychologists. These are the people who are primarily responsible for the development of psychology as a field of knowledge and as a field of service. Because their interests are wide and varied, because the field is complex, this responsibility must be met by many individuals on many wide-spread fronts.

Psychologists, however, despite their great diversity of interest and activity, have much in common. Hence, they have banded themselves together into an association whose purpose also is to further psychology's development. Psychologists are not alone in meeting their responsibility; it is shared by the Association which they have built.

What responsibilities do psychologists have? 1. To foster scientific research on the problems of behavior, especially human behavior. Psychologists are trained to apply the scientific method to the problems in which they are interested. They must, therefore, continue, through the application of the

scientific method, to extend and improve their knowledge of human behavior. This extension of knowledge may be attempted either for its own sake, as in "pure" research, or for the purpose of discovering facts and formulating principles immediately applicable to problems of human welfare.

2. To apply psychological knowledge to problems of human welfare. The psychologist cannot evade the responsibility of utilizing his professional skill and understanding in serving the society in which he lives and works.

3. To disseminate knowledge of the science of psychology and of the applied psychological arts. This dissemination is directed toward all who need it or can use it profitably.

To whom are these responsibilities owed? It is evident that the APA must serve its members, but it also has a responsibility to the public at large, to students of psychology (whether or not prospective members), to related professions, to universities, and to future generations which rely on the scientific accomplishments of the present. And finally, responsibility is owed to the public, which must, in the last analysis, support psychological research and its application and appraise its value to society. A public informed concerning the nature of human behavior and results of scientific study, and sympathetically aware of what the psychologist is attempting to do, is a necessary background for the successful discharge of all the responsibilities enumerated above.

There may at times be situations in which the best interests of psychology appear to be in conflict with the best interests of society. In such cases the interests of society should prevail.

MEMBERSHIP REQUIREMENTS

Last year the Board recommended raising the requirement for admission to Associate membership to the level of the PhD. The Board of Directors advised the Council of Representatives to defer action on this proposal for a year. The Council concurred in this decision and asked the members to study the proposal. In order to determine the members' judgment, the Executive Secretary was instructed to circulate an advisory ballot. The members have voted 3 to 2 against adopting the PhD as a membership requirement.¹ This result confirmed the wisdom of the Council's decision to refer the problem to the

members and made it evident that the specific recommendation of the Policy and Planning Board lacked support and should therefore be dropped.

Dropping last year's recommendation, however, does not dispose of the problem of membership standards. The Board feels that all psychologists should remain in one organization, and that not all should be required to have the doctor's degree. We believe however, that the standards of the profession should be raised as progress is made in the training of psychologists and as the amount of knowledge that can be placed at the disposal of practitioners in the field of psychology is increased.

One question concerns the proper role of the master's degree in the training of psychologists. We believe, as we did a year ago, that the term "clinical psychologist" should be reserved for persons with a doctor's degree. However, it is likely that some kinds of psychological work in clinics will always be performed by persons with less than doctoral training. Many clinical programs will require psychological workers who serve as assistants or technicians under supervision of the clinical psychologist. For these assistants, the master's degree is appropriate.

The master's degree obviously will continue to be of service in various other areas of psychology. The discussion of this matter in the 1947 report was inadequate. We believe that there are many kinds of psychological work for which the master's degree, or other programs differing from the traditional doctorate, provide appropriate training. technicians for whom the PhD is unnecessary.

In view of these considerations, no changes in membership requirements should be adopted until after the Policy and Planning Board has made a systematic review of the entire structure of the APA in 1950.

PUBLIC RELATIONS

The subject matter of psychology and the results of psychological research often contain information of general interest to the public. There is no question whether newspaper and magazine stories dealing with these topics will be printed; the questions are what kind of stories will be written and how will they inform or misinform the public.

It is important that the public understand what psychology is, what psychologists do, and what values the science of psychology has for society. Society is not indifferent to the findings of scientists. The psychologist is failing in a fundamental obliga-

¹ The report on the advisory ballots requested by the Council of Representatives at the September, 1947 meeting is given on page 212.

tion if he does not help society to improve itself by assimilating the products of his work. From quite another standpoint, this understanding is essential if public support is to be obtained for efforts to protect the public through legislation certifying psychologists. It is essential in a public which is expected to provide opportunities for research on social problems and funds to support that research. Finally, public understanding is essential for the effective use of the research and clinical resources of psychology by government agencies, social agencies, business, and individuals.

While public information is essential, many psychologists consider "publicity" undesirable and wrong. This attitude stems from distorted press accounts of psychological research and from a negative reaction to publicity in which individuals have attempted to publicize themselves. The Board sympathizes with this attitude, but nevertheless feels that psychologists and the APA should endeavor to create a better public understanding of psychology. In this sense, public dissemination of information is an extension of the view that research findings should be published. In one case we are publishing information for the benefit of our colleagues; in the other for the benefit of our society.

The Board feels that news accounts should not make promises or arouse expectations which cannot be fulfilled. Individual psychologists, and the APA or its constituent parts, should be careful not to promise more than can be delivered. Exaggerated claims, particularly those made at the expense of allied professions, will inevitably react unfavorably upon psychology.

The Policy and Planning Board recommends making as much use as possible of existing agencies such as university extension departments. Existing agencies provide a means of presenting psychology, its achievements, and its services to the public in a way that often eliminates some of the objectionable characteristics of direct publicity.

In the judgment of the Policy and Planning Board, it would be unwise to add a full-time public relations expert to the staff of the Executive Secretary at this time. There are many steps that local groups of psychologists can take to increase public knowledge about psychology. Experimentation by local groups seems highly desirable and the Board hopes that local groups will take initiative in this matter.

Finally, it is recommended that the Executive Secretary continue his effective contacts with the representatives of other agencies. While local

groups may often recognize and deal with local problems most satisfactorily, our central office has repeatedly demonstrated that contacts with the centralized agencies of mass communication media and with national organizations can well be handled centrally.

INTER-PROFESSIONAL RELATIONS

It is inevitable in this period of rapid expansion and professionalization that problems should arise in relations with members of allied professions. Awareness of such problems is attested by the existence of various APA or division committees—the Committee on Relations with Psychiatry, the Committee on Relations with the Social Work Profession, and the Committee on Inter-professional Relations of the Division of Clinical and Abnormal Psychology. The Board believes that there is a need for thoughtful coordination of the activities of these several committees, a coordination that may be effected by overlapping membership and by mutual planning and sharing of information.

Professional relations among psychologists, psychiatrists, and social workers are currently in process of development and change. It is not surprising, in the course of this change, that some evidences of tension should appear along with numerous instances of smooth and harmonious cooperation in common efforts. It is our conviction that where undercurrents of antagonism exist, they should not be permitted to grow into clearly structured, negative stereotypes. It is our belief that frictions will diminish as psychology develops certain of the individual and group controls required by professional activities that deal with intimate human problems.

In older professions that deal with human welfare, and particularly with people in trouble, there has grown up an attitude of responsibility for the welfare of patients and clients. New members of these professions are inducted into a group that is comfortable and experienced in this relationship and that has carried over the years the responsibilities which it involves. Among psychologists there are relatively few practitioners who have had the opportunity to develop such attitudes. There is not a large and stable group with whom students can be trained and into which they can be inducted as their identifications with the group develop. This situation is largely a result of the sudden and almost overwhelming expansion of the profession. In coming years, as psychologists develop a large group of experienced practitioners, this sense of responsibility will become

more explicit, and its existence will become manifest to other professions.

An even more fundamental approach to the problem, and one which psychology can control more effectively than by leaving it to the slow progress of time, is the improvement of the training and competence of psychologists. Among collaborators, mutual respect for each other's training standards and professional skill is a powerful force for the development of harmonious inter-personal relations. In the long run, research devoted to improving diagnostic and therapeutic procedures can also contribute.

Eventually, certification will be the symbol of this training and competence. It will serve the public as a guide and a protection. Codes of ethics will supplement this guide and will protect society further—codes built on a sensitive identification of the psychologist with the client, in which the confidential nature of records and data will be soberly respected, and in which the client and his problems will have consistent priority.

RELATIONS TO UNIVERSITIES AND ACCREDITATION

The 1947 Report of the Board contained a section on university accreditation in clinical psychology. Consideration was given to the possible dangers associated with such a program, as well as to its value. At this time the Board wishes to reaffirm the position there expressed. The importance of accreditation as a protection to the public, the student, and the profession itself is so great and so generally recognized that there seems to be little doubt of its desirability and necessity. For the present, however, the Board believes that accreditation should be limited to the clinical area.

After a review of the experience with accreditation in clinical psychology during the past three years, the Policy and Planning Board has reached certain conclusions. It is clear that constant thought must be given to maintaining the accreditation program at an effective level. This can be accomplished only by the periodic reexamination of both goals and procedures, but it is important that accreditation procedures should avoid as far as possible the uncertainties and anxieties associated with too frequent and unpredictable examination of clinical programs. It is still more important that both the evaluation procedure and the report serve as really useful means for accomplishing the changes necessary to establish an adequate program in line with general clinical training standards.

We wish to emphasize that any "ideal" training program such as that presented by the Committee on Training in Clinical Psychology (*Amer. Psychologist*, 1947, **2**, 539-559) should be understood as presenting a *general* pattern of training toward certain goals, rather than as a blueprint for curriculum organization. A true evaluation of universities cannot be made by counting courses or by counting the staff. Rather must it be based on general considerations such as the caliber of the staff, the emphasis on research in both the clinical and nonclinical areas, the ratio of students to staff, the quality of the facilities, the effective cross-contacts between clinical and nonclinical students, the breadth of the goals of training, the effectiveness with which major areas are covered, etc., etc. There must be a recognition that quite different paths may lead to the same goals. Experimental, forward-looking programs must be encouraged in a rapidly changing field like clinical psychology and rigid adherence to any training program must be avoided.

In view of these considerations, the Policy and Planning Board recommends that the APA continue its present policy of evaluating and accrediting institutions in the field of clinical psychology. The Board believes that such a program could be more satisfactorily implemented if certain changes were made in the procedure followed. The Board suggests the formation of a continuing committee on Training in Clinical Psychology composed of 9 members serving three-year terms. The Committee should be provided with an administrative officer whose duty it would be to visit the universities and maintain liaison with them under the direction of the Committee. During 1948-9, the administrative officer, together with one or another of the Committee members, should visit each of the universities offering a clinical program. After the 1948-9 visits, the review of any particular university would ordinarily be carried on every three or four years. Exceptions would be made when an evaluation is requested directly by a university or when, in the opinion of the Committee, special considerations call for such action.

The exact details of the procedure of evaluation should be left to the Committee. The Board recommends, however, that the Committee should endeavor to clear the factual data about strengths and weaknesses with the university visited as soon after the interviewing as possible, possibly before the end of the visit. In general, the Board feels that such a

procedure would do a great deal to avoid the problems which have arisen in the past.

PSYCHOLOGY AS SCIENCE

In the midst of the diverse interests represented among contemporary psychologists, one attitude stands out as unifying all members of our Association. This is the conviction that the scientific method is applicable to the perplexing problems of behavior—the applied problems as well as the more fundamental ones. This attitude is accompanied by a dedication to extending the knowledge of behavioral science through research.

While there are some who view the greatly increased demands for psychological services as a threat to this unifying tradition, it is not necessary for the practitioner to abandon the scientific ideal, even though he himself does no research. The unity of psychology may be maintained through the common emphasis on the scientific tradition, even though a division of labor be recognized.

Both the continuation of this unity and the further progress of all aspects of psychology are dependent upon the level of excellence of psychological research. The skill with which research is conducted depends, in turn, upon the standards by which psychologists are selected and the thoroughness with which they are trained.

Changing conditions in our graduate departments have increased the difficulties of high level selection and training. In the past, a small number of graduate students enjoyed the advantages of close continuous contact with senior staff members engaged in research. This research apprenticeship is endangered by present developments. Graduate student bodies have grown more rapidly than their faculties. The increased amount of knowledge to be imparted has multiplied the formal courses included in a graduate program. The development of applied psychology has required training to be given in fields of relative scientific immaturity. To these changes in psychology itself, the war has contributed a change in the student body. Many graduate students are older, with family responsibilities and a greater urge to complete their training quickly.

These changes force the Association and the universities to plan with care the contributions each must make to the improvement of psychological research and those who engage in it. The great importance assigned by the Policy and Planning Board to the Association's responsibilities is evidenced by

the final section of this report. To the universities, the Board offers the following suggestions.

The training of a psychological scientist is shaped by the opportunities given him to exercise scientific operations. This means that during his training he must be given opportunities to design experiments, apply fitting methods of analysis, interpret data, relate findings to connected concepts, and describe the experiment unequivocally. More than this, he should not only be given opportunity to indulge in these practices; he must become *skillful* in them. It is not sufficient that training be available; it must be *good* training.

Scientific methodology may be applied at different levels. In the case of a relatively new research area, classifying procedures may assume importance. At a more advanced level, the determination of empirical relationships may be significant. At a later stage, tests of theory in terms of deductive principles may be the main preoccupation of the investigator. Work in more highly developed areas requires an understanding of principles applicable to less highly developed fields as well as principles appropriate to the advanced field itself.

It has been argued that all areas of psychology present appropriate data for training in scientific methodology. It is certainly true that all fields permit the application of *some* scientific operations, but it is not true that all fields present possibilities for exercising *all* operations; subject matters at a stage of exploratory fact finding do not present opportunities for testing hypotheses developed in a matrix of quantitative conceptual theory. And yet it is desirable that prospective workers in the less well developed fields be acquainted with the work of the more advanced ones, for it is difficult to see how the former may be advanced if its workers are unacquainted with the operations required for a higher level of development. Thus it seems necessary in the training of psychological scientists to emphasize first-hand acquaintance with *all* aspects of research methodology. Topics such as vision and learning have much to offer as model systems which represent ramifying theoretical connections. Conversely, students of vision and learning may benefit from an understanding of statistical methods which have proved valuable in other areas.

Psychology, with its many-faceted subject matter, probably does not provide adequate opportunities for cross-fertilization of ideas. In particular, those fields which are more highly developed methodologically may have a great deal to contribute

to fields which represent more difficult and complex subject matters. The need for a flow of information from the experimental and quantitative fields to other areas is widely felt; the need for a reverse flow is sometimes manifest. Areas of common relevance should be pointed out, and the need for cross-fertilization in the training process of students should be emphasized.

An ever present danger in the training of the psychologist must be mentioned. "Indoctrination" in a given approach should not be carried to the point where benefits derivable from enthusiastic teaching are overbalanced by the disadvantages incurred in making the student dependent on authority. It is important that the student regard his training from the point of view of his own development; and that the teacher be on the watch to restrain tendencies to form the student in his own image.

The topic of training is often associated in the mind of the psychologist with the topic of selection. If scientific performance may be improved by raising the level of training, may it not also be improved by raising the standards for selection?

The Policy and Planning Board wishes to encourage experimental studies on the selection of scientific talent and the improvement of scientific training.

A PROPOSED RESEARCH POLICY REPORT

No broad plan for basic research in psychology exists. As a result, we have not been prepared to state effectively the case for psychological research on important and critical occasions such as the planning for the National Science Foundation. Those who have funds available for the promotion of research need, and in some cases have asked for, guidance in the allocation of those funds. The urgent and ubiquitous demands upon psychology present us with both a threat and a challenge. There is always a danger that the urgency of practical needs will tempt us or even compel us to extend practice far beyond scientific knowledge. At the same time these urgencies suggest that we can no longer rely solely upon isolated investigations. In order to advance basic psychological knowledge at an accelerated rate, we must investigate the possible advantages of a kind of planning which will help to coordinate the research efforts of individual investigators. What is required is a document charting desirable directions for research in psychology and the best methods of administration.

The Policy and Planning Board proposes to pre-

pare a Research Policy Report, answering questions such as the following:

1. Should the most serious gaps in the systematic knowledge of psychology be located and examined, and special efforts made to stimulate fundamental research in these directions?

2. Do present sources of financial aid tend to distort the proper balance between pure and applied research and among the special fields within each?

3. In what fields is it most advantageous to work as individuals, and where are research teams more effective?

4. Can better research coordination be achieved through group planning even though the actual research is carried on in different centers?

Answers to these and similar questions must be based upon many background considerations. No committee could sit down and write an adequate statement of research policy without considering the broader aims of psychology, its principal trends, developments in the other biological and social sciences, the nation's policy for scientific development, the probable size and nature of universities in future years, and other features of the social situation which give a context for research. Relevant source materials, such as the reports of the President's Commission on Higher Education and similar planning documents, will supply some of this information.

So important is the preparation of the Research Policy Report that the Policy and Planning Board proposes to devote its 1949 meeting to its initiation and detailed planning. In order that the report may be planned as wisely as possible, the Board will welcome suggestions from members, and expects to seek expert advice from those best informed on the many problems involved. Throughout the year, the Board members will be working on the project by correspondence.

The Board is determined not to move too fast to do the job well, but is initiating the preparation of the report immediately in order to make available as promptly as possible a statement strategically important for psychology, its students, and its supporters.

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ETHICS AND THE SOCIAL SCIENCES

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NO EDUCATED person can have failed to hear, constantly reiterated during the past three decades, like the steady intoning of a Greek chorus, the demand that the sciences of man shall overtake, or at least reach equivalent development to, the physical sciences. To those interested in advancing the social applications of psychology the need for implementing this aim by far greater research endowment, commensurate to the tasks to be faced, is keenly realized. The fact that this heartfelt wish has so far rather signally failed of accomplishment should lead us, as scientists, to examine the situation for possible systematic obstacles.

Apart from that endemic conservatism which retards the endowment of any new branch of study there appear, in this case, to be broadly two sources of resistance; first internal methodological difficulties; and, secondly, the resistance of those professions or studies already performing in some manner the tasks which it is proposed that social science shall ultimately take over. It can be shown that in one important respect, namely with regard to the relation of social science to moral values, the methodological difficulty and the external opposition spring from a single source of confusion. If social science would firmly put its house in order in this matter, to the extent advocated below, it would make more rapid intrinsic, scientific progress and, at the same time have less cause to charge politicians, social workers, religious leaders, and even brother physical scientists, with sabotage or "irrational" opposition.

The nature of the external opposition has been well illustrated recently in the debates connected with bills brought before Congress to achieve national endowment of scientific research. Indeed the urgency of raising the present issue springs from the fact that continuation of the existing confusion and the associated opposition to social science seems likely to penalize still more the already under-endowed sciences of man. One might wish that scientific idealism alone would in time rectify the undesirable features of the social sciences, but the

sad truth is that a crisis such as the present may prove to be an historically necessary impulse to this scientific reformation. In the present crisis we see, first, a split between the physical scientists and the social scientists to the extent that the physical scientists are willing to drop the social sciences rather than risk loss of the whole endowment. Politely this is explained as necessary strategy in view of politicians' objections to the social sciences; but more candid discussion reveals that a surprising percentage of physical scientists are themselves dubious about the methods and standards of the social sciences.

Secondly, we encounter the opposition from politicians, perhaps somewhat more from Republicans than Democrats, springing from the historical fact that the more noisy and dogmatic, if not the more able, social scientists have tended to be left wing or revolutionary or both (5). Hence the view that "social science leads too easily to 'isms' and quackeries" (5). We find even a supporter of the bill, Senator Fulbright, saying: "What is commonly called social science is one individual, or a group of individuals, telling another group how they should live" (5); while Senator Radcliffe (PhD, John Hopkins) "made certain justifiable remarks regarding the danger of crackpots in applied social science research, with specific reference to 'men addicted to -isms'" (6). Other representatives of the government opposed endowment of social science on the ground that it was an *applied* science and that the purpose of the bill was to foster pure science. Yet another committee, interviewing a group of psychologists and other social scientists, repeatedly asked for examples of constructive action based on social science findings, and seemed genuinely puzzled when no convincing cases were presented.

To this grilling some social scientists react with the assumption that the misapprehensions are all on the side of the politicians and the general public, and this is but another symptom of what is wrong with social science. The fact remains that propaganda and science *have* been inextricably inter-

mingled, sometimes carelessly, sometimes cunningly; that partisan groups have claimed the name of social science; that the greater part of social science has dealt piecemeal with trivial applied problems instead of aiming at basic principles; and that reforms based on social science findings rather than common sense alone are very hard to find. These statements cannot be thoroughly documented in an article of this size, but examples are well known to social scientists and a few are used in illustration below.

The view that social science *cannot* be unbiased (5)—a view apparently shared by the extreme right wing and the Marxians—must be fought strenuously, both for the sake of social nourishment of this unfortunate orphan of science and, more seriously, for the sake of the integrity of the subject itself. It can be fought only by social scientists themselves adopting definite and high standards of what is acceptable. The basic fact to be taught students of social science is that their *discussions and conclusions involve two distinct sets of principles: (1) Those concerned with moral values or ultimate social goals; and (2) Those concerned with the actual prediction of how individuals and groups act.* The first principles are concerned with what *ought* to be aimed at; the second with mechanisms showing *how* the goal may be attained. The division between ethical science and social science cannot always be made so easily with intermediate goals—for the end does not justify the means, and means may have moral value—but in principle the division is clear.

Although all are agreed that social sciences are concerned to discover the second type of principles, there is a wide range of opinion as to whether it is the social scientist's business to investigate also the first type i.e. ethics. Revealed religion, on the other hand, maintains that moral values are given and beyond investigation. Many scientists accept this position and it is interesting to find such a rationalist as Scates (7) maintaining that the social sciences are not different from the physical sciences, being in fact efficient "means to ends", the ends in both cases being those of our accepted morality. Unfortunately the position of most social scientists concerning the basis of their moral valuations is no position at all, but a confusion of incompatible angles of approach. Thus Yerkes, in *Science* (8) takes exception to a statement in a supposedly scientific journal that "In the wide field of human affairs the scientific method cannot

be applied even in the form of statistical analysis, to problems in which events are influenced by the philosophical values of goodness, truth and beauty." He retorts by pointing to "the actual existence of an impressive literature . . . of a vast array of recent discovery and technical application." But Yerkes does not point to a single scientific research on the derivation of ethical values. His opponents at least have taken up the logical, explicit, defensible and long established position, running from Moses through Kant, that morals are intuitively "revealed" and lie completely outside science. In company with a surprising number of social scientists, Yerkes, on the other hand, appears to work with the ready-made moral values absorbed in early life, without any explicit statement of their derivation and with the erroneous, vague idea that through being in contiguity with a scientific age they have somehow become scientific.

Elsewhere, (2, 3) in the concept of Evolutionary Ethics, the present writer has attempted to show that ethics can be brought within science, not merely in the sense of Bentham and Mill—that moral laws can be scientifically derived from a single axiomatic goal—but also in the sense that the ultimate goal may itself be derived from psychological and physiological investigation of living matter. This view, however, has attracted very little support or understanding, and it is probable that the majority of scientists, like most laymen, implicitly accept the philosophical view that ethical values lie outside scientific reasoning.

For present and practical purposes it does not matter which of these views one adopts, providing one does so explicitly, intelligently and honestly. Even if one adopts, in principle, scientific ethics, the sociological mechanisms of value derivation are in fact so complex and so neglected as a scientific problem that no real advance on rule-of-thumb religious morality can be offered. In both cases the important thing to bear in mind is that the social scientist, as far as moral values are concerned, is a layman and an amateur,¹ in no position to tell even the meanest of his brother citizens in a democracy

¹ This is perhaps recognized least by psychiatrists and writers on mental hygiene, whose willingness to put the world right exceeds even their scientific knowledge of human nature. President A. C. Ivy, of the University of Illinois Medical School (W.I.L.L. Radio address, December 28, 1947) complains, "Psychiatrists have told me that a man is pathological who wants to sacrifice himself to a cause"; but this is the least of the excursions of psychiatry into moral pathology!

what *ought* to be done—if by “ought” we imply the choice of a goal rather than a means toward it. His knowledge of the second order or predictive principles i.e. his ability to predict what will follow if certain economic, social or psychological changes are made, is already greater than that of the politician or the priest; but if he presumes on this knowledge to speak authoritatively also on ethical principles, about which he knows next to nothing, it will be at the cost of the social and scientific reputation of the social sciences. What we need in the social sciences is men of such intelligence that they clearly discern this issue and of such integrity that they can be depended upon absolutely not to take advantage of it.

The biases, distortions and swings of fashion which have occurred through unadmitted intrusions of value judgments during the last generation of American social science will some day make interesting reading in the perspective of history. During their occurrence, however, they have been only slightly less embarrassing to men of scientific conscience than the biased social sciences of Germany and Russia. Thus it is easy for us to see that German social scientists grossly overemphasized the social importance of heredity. It is not so easy to see, however, unless one comes from the atmosphere of some such country as England, that we in America, by an act of contrasuggestion, have allowed the social sciences dangerously to neglect the role of biological and hereditary forces. Thus, for example, Boas's findings of rapid changes of cephalic index in immigrant groups were for years gladly interpreted as due to environmental influence, in spite of protests by a small minority in favor of the equally likely and now more generally accepted explanation. Similarly a comparison of Russian and American textbooks on the social science of economics leaves one rather ashamed to attach the term science to those areas of “knowledge.”

Another sad blot on the escutcheon of the social sciences has been the recent claim, by some sociologists and a few psychologists, to measure economic, religious, or racial *prejudice*. In one such “Prejudice Scale”, for example, the carefully reasoned argument of the late William McDougall that Negroes should have a state of their own would be an item scored for “Anti-Negro prejudice.” The designer of this scale, in short, presumes to know what degree of pro- or anti-Negro feeling is precisely rational and also what measures are or

are not ultimately going to work out beneficially for the Negro people. Test designers of this kind would have labelled anti-Japanese feeling in 1941 as “prejudice” and seemingly would have suffered only momentary misgivings in labelling quite similarly pro-Japanese feeling in 1942. Inter-group alliances and hostilities have to be looked upon more objectively than this, as natural processes, if social science is to come of age. A prejudice by definition is an attitude which cannot be rationally defended. Obviously most human attitudes, therefore, are prejudices, but it would be a life's work at present to demonstrate whether even a single attitude is or is not a prejudice. The social scientist who claims to measure the amount of prejudice in an attitude boasts, first, complete knowledge of what the social outcome of the given attitude will be, and further, that he has a scientific basis for assessing this outcome by value judgments of ultimate good and evil.

The first of these claims is absurd in practice; the second, as we have seen, is absurd even in principle. From the second absurdity one well-known measurer of prejudice has attempted to escape by saying that a prejudice is anything that does not agree with the approved social viewpoint. This is ethnocentrism with a vengeance! One can imagine the heavy prejudice score that would have been assigned to Galileo with his obstinate assertion “*Epur si muove*”! Such a standard makes every minority a prejudiced group. But, what is worse, it makes social science a purely local study, yielding different findings and principles in America, France, Russia or wherever it may be applied.

At the present stage of scientific ethics, and in our present ignorance even of the predictive principles concerned with inferring the ultimate outcome of an attitude, the very use of the term “prejudice” as a scientific concept in connection with social attitudes should automatically disqualify the user as a social scientist. It shows a naivete about the basic principles of science, or a pretense to authoritarian ethics, or an attempt to use science as propaganda—any one of which is intolerable if the reputation of the social sciences is to be preserved. In justice to most of the workers in this field it should be pointed out that they, and the men who have made the large technical advances e.g. Thurstone and Chave, have rigorously claimed to be measuring only *attitudes*, keeping their personal value judgments out of the picture. Many

other instances could be taken, however, of lack of objectivity, accidental or deliberate, in the social sciences. "Prejudice" is taken only because the issues are discussable in limited compass.

The widespread character of this failure to separate first and second order principles, however, is sufficiently evidenced also by the lack of harmony within the social sciences. Any student simultaneously studying, for example, economics, sociology, physical anthropology, and psychology knows that he must be careful not to repeat in one course what he has learned in another. For example, in economics he will learn a system of motivation that has little relation to what he is taught in the biological study of man. And whereas in psychology he will be told about innate drives, in sociology he will be told that the principal motivation patterns are products of the cultural pattern only. In most cases it can be readily shown that these differences in interpretation are related to differences in the values, the ideals, and the ego-involvements of those teaching the different subjects.

Is the social scientist then *never* to be allowed to take a stand on value judgments or to urge a line of social action as ardently or fanatically as anyone else? As a *citizen*, but not as a scientist, he may campaign freely for whatever he wants. Providing he makes it clear that he is not speaking *ex cathedra*, but as a member of a democracy, with no more authoritative, professional knowledge of *values* than any other citizen, he may render to Caesar as wholeheartedly as he wishes. As a scientist he may even more strongly urge some "reform" program upon society; but it then becomes obligatory for him to state or prove *the science of his ethics*. For, as we have seen, every practical course of action or social engineering requires a marriage of first order and second order principles i.e. of a sciences of ethics and a science of man. The alternatives open here to the social scientist desiring also to be a politician are either (a) to indicate what part of the argument derives from objective social science and what part from revealed, dogmatic or personal value systems imported into science or (b) to attempt to found the second part also on science—but even then the set of principles forming a science of ethics will form a branch of science distinct from social science generally. The realization that social scientists have to build for themselves a science of ethics—perhaps beginning where philosophy and religion have left off—has grown

apace in the last few years, as social science for the first time addresses itself to major practical problems. Whether we demand that both the goal and the intermediate derived values of law be scientifically founded, or instead, state some ultimate goal by faith and derive only the intermediate values scientifically therefrom, the task falls most appropriately to the social psychologist. For whether an act is good or bad will depend upon its ultimate social consequences in relation to an approved goal of society and only a social psychology with a highly developed understanding of the prediction of social consequences and sequels will therefore be able to evaluate the morality of an individual or group course of action. Of such a science of ethics we have at present scarcely a dawning glimmer, and the fact that we continue to work with a bizarre juxtaposition of science with varied systems of ready-made ethics makes the requirement of a statement of ethical postulates by social scientists even more indispensable.

The movement to redeem the social sciences by raising⁷ them to a true discipline of science and a professionally ethical relation to society sometimes encounters the objection that the arts know no such curb. Some artists have unashamedly used art for propaganda: Berlin and Moscow have proclaimed that the purpose of art is to interpret and propagate a political viewpoint, and recently a well known singer in this country has loudly proclaimed his intention to use his art for the propagation of his own particular -ism. From the days of Greek drama, with its religious-philosophical lessons, art has vacillated between didacticism and "art for art's sake". Some people may consider that art should, at most, relay values from a single, explicit, ethico-religious source, while others may think it proper for art to create and propagate inexplicit values. Neither of these views justifies the extension of propaganda to science. For if, as in the writer's view (2, 3) indicated above, the social sciences have the possibility of ultimately becoming the source of a science of ethics i.e. of bringing ethical principles on to the same plane of objectivity as predictive principles, social science would supersede the erratic intuitions of the artist and tender programs of social improvement examinable at all points by criteria as objective as those brought to bear in examining a new engine.

To attain this level of scientific objectivity and social usefulness it will be necessary not only to ad-

vance powerfully the now neglected scientific study of ethical values, but also to rid social science of such ill-considered notions as that of so-called "action research." Here we have a meretricious appeal for action on scanty, even perfunctory research, that could quickly lead to a wholesale prostitution of social science. In the first place the minority partisans of this movement cannot seemingly foresee that it could become a terrible boomerang when caught in the wind of propaganda from the majority opposition, nor do they apparently care that science would be laid waste in political battle. The only dogmatism we need today is that of an obstinate refusal to be stampeded into a prematurely closed state of mind.

In these debased conceptions of research the essential fact seems to be lost from sight that all knowledge is probability, from the high probable error of a political or religious judgment to the low probable error of a prediction in physics. If the words "research" and "science" are to have any meaning at all they must be restricted to matters capable of high degrees of predictive verification. However, the greatest objection to action research is not that it proceeds to act on a high probable error—for much social action must deliberately be started with such limited knowledge—but that it proceeds on arbitrary and unstated assumptions about ethical goals. "Approximation research" or approximation inquiry, defined as social action recommended on stated value assumptions and with known but high probable error, as a result of a deliberately approximate, limited research, is a social necessity of our times, but "action research" is approximate morally as well as scientifically. The proper role of approximation research can be illustrated from current applied psychology by such examples as Burt's report to the Parliamentary Commission on Population (1). He demonstrates that the decline of mean IQ in the population, resulting from the differential birth rate existing in the decade 1930-40, lies with high probability between 0.87 and 1.3 points per generation. Although there is room for much technical debate as to what figure has the greatest probability within those limits, such debate is superfluous from the point of view of social action. On the explicit ethical value that democracy is a desired form of society, and on the scientific prediction that such decline operates against the practicability of democracy, social scientists are fully

justified in urging scientific measures to combat the trend.

It is reassuring to see that these aspects of social psychology are now being given serious attention by responsible psychologists, as in the symposium at the APA meeting of 1947, under the chairmanship of D. G. Marquis, where cogent arguments against the former conception of "action research" (as opposed to basic research) were given. The discussion awakened most psychologists to a keen awareness of the truth of the introductory proposition that "the use of their scientific status (by social scientists) in prompting controversial issues, although immediately effective, may result in retarding the development of public confidence in the reliability of social science knowledge."

Although confusion over the position of ethical values in science is the major cause of the present internal and external difficulties of the social sciences, it would complete the picture to glance briefly at the possibility of truth in the senators' objections that the social sciences are merely applied sciences. That they are all too frequently local in reference and lacking in an adequate core of generally applicable principles has been admitted. What remains to be admitted is that the disproportionate growth of commercial application has caused some branches to be contaminated by the morals of the market place.

A topical example is the enormous growth of opinion study and polling. Psychologically and sociologically this has not required the introduction of any very ingenious thinking, nor has it brought to light any fundamental principles for pure science; but it does require attention to certain common sense practices of sampling and item construction. It is well known that a good deal of this work has nevertheless been carried out in a rather unskilled fashion, and recently McNemar in the *Psychological Bulletin* did a signal service to the field by calling attention to the scientific errors occurring and the principles needing to be observed. A published reply (4) to McNemar's criticisms deplored principally that "the tone of the review is definitely adverse . . . the public relations effect of an adverse review, by a distinguished psychologist, of an entire section of psychology (sic!) can scarcely be favorable". Apparently McNemar should have realized that those profiting by the application of social science have more important things to think about than whether it is in fact science. Elsewhere ap-

plied social science procedures are excused on the grounds that they "must place emphasis on speed and economy (profit) and are basically oriented toward practical fact collection rather than scientific advance". Unfortunately the argument concerns whether these spuriously numerical findings are "facts".

The historical situation seems to be that the social sciences are called to the bar of public reckoning, with possibilities of unprecedented expansion or continued ignominious neglect, at a juncture when they have lost some of their scientific discipline, and drifted into bad habits, confusing scientific facts and ethical values. Apart from its strategic untimeliness, no one imbued with scientific spirit would do anything but welcome this long-needed, brusque summons to put social science on the same level of objectivity, integrity, and disinterested curiosity as the physical sciences. Nevertheless there is a really difficult task ahead if social science in the next few years is to gain what it evidently lacks—respect from the public and valuation by scientists equal to those now accorded to the physical sciences.

Two things are essential to this end. First, owing to the nature of the subject matter, the social sciences need men having greater rather than lesser integrity in comparison with that demanded in research in the physical sciences. Even with rudimentary methods, biological and social sciences were safe in the hands of a Darwin, a Spencer, a Freud, a Pareto or an Adam Smith; but in the hands of tendentious men, interested in goals other than those of scientific knowledge, or incapable of being honest with themselves, wholesale distortion is inevitable. It should

be the first task of responsible social scientists to weigh the characters as well as the intellectual capability of those who become professional social scientists. Secondly, to sum up the above discussion, we need to recognize the duality, the warp of objective scientific principles and the weft of ethical values, in any recommendation by a social scientist. For this reason it should become the common habit of social scientists, in their conclusions and especially in their public utterances,² to set out clearly on the one hand the facts and on the other whatever religious, political, or moral goals or values they personally have brought into contact with these facts in arriving at the given recommendations.

REFERENCES

1. BURT C. L. *Intelligence and fertility*. London: Hamish Hamilton, 1946.
2. CATTELL, R. B. *Psychology and social progress*. London: Daniel Co., 1933.
3. CATTELL, R. B. *Psychology and the religious quest*. New York: Nelson & Sons, 1938.
4. CONRAD, H. S. Some Principles of attitude measurement: a reply to 'Opinion-attitude methodology.' *Psychol. Bull.*, 1946, **43**, 570-589.
5. LEEPER, R. W. An analysis of action on science legislation in the last Congress. *Amer. Psychologist*, 1947, **2**, 127-136.
6. LUNDBERG, G. A. The Senate ponders social science. *Sci. Mon.*, 1947, **64**, 397-412.
7. SCATES, D. E. The parallel roles of physical and social science. *Sci. Mon.*, 1947, **64**, 14-20.
8. YERKES, R. M. The scope of science. *Science*, **105**, 461-462.

² A recent welcome instance of a competent outlook in social science is found in A. C. Kinsey's *Sexual Behavior in the Human Male*, which prefaces its findings with a statement that they are "a report on what people do, which raises no question of what they should do."

THE ORDER OF TOPICS IN GENERAL PSYCHOLOGY

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TEXTBOOK designing," says R. B. Cattell, "must depend even in the details of chapter arrangement on enlightened application of fundamentally true educational principles" (4, p. 7). If there are such principles applicable to the ordering of topics in the first course, they are not apparent in unmistakable fashion in current textbooks, for there is less uniformity in the organization of elementary textbooks than even in their content. Munn (15) discusses individual differences in his twenty-second chapter, Woodworth and Marquis (29) in their second. Vaughan (25) considers the nervous system in his fourth chapter, Ruch (18) in his last two chapters. Wheeler (26) turns to personality early (third chapter), Guilford (11) postpones it until the last. Morgan (13) takes up heredity and environment immediately after his introductory chapter, Husband (12) waits until chapter 28.

This diversity is not in itself perhaps of great moment, but it does lead one to wonder whether "true educational principles" are being applied to the problem of organization. Is there one best order of topics for the elementary course in psychology? If so, what is it, and how may it be defined? If not, are at least some orders better than others; and how might they be recognized?

These are the questions which I addressed to the authors of the leading elementary texts published during the past ten years. Twenty-seven psychologists responded, authors (and co-authors) of twenty-one books, including two editions of Woodworth (28, 29), of Ruch (17, 18), and of Tiffin (22, 23). In addition, Boring and Langfeld and Ruch were thoughtful enough to include some reference to forthcoming editions, not yet published at the time the questionnaire was received.

Six of the respondents thought there was one best order, and four of them, Cattell, Muenzinger, Schoen, and Asher, felt that their texts expressed it. Schoen and Asher both have collaborators, but their collaborators were not inclined to be quite as outspoken as they. Indeed, Knight (Asher's co-author) wrote, "The teacher's personal bias is too

important for one best order of topics for all, don't you think?" However, their collaborators did, for the most part, feel that some orders were superior to others.

The criteria for defining the best order were variously formulated by the four. Asher's formula was "student interest and orientation." Schoen favored the genetic approach, "showing the growth of mental operations from elementary to complex." Muenzinger, who endeavored to achieve a systematic exposition of psychological material in his book, defined the criteria as follows:

- (1) A frame of reference by means of which behavior is described in terms of the interrelated categories, motivation, discrimination, performance, affectivity.
- (2) The distinction between behavior and psychophysiology.

A synthesis, to some extent, is provided by Cattell's formulations in the preface to his book, to which he made reference in his letter.

A subject is introduced nontechnically with certain simplified views which become modified, as the chapter proceeds, by an examination of further research, just as has occurred in the history of science (4, pp. 7-8).

From the concrete to the abstract (p. 8).

Both logical dependence and the natural direction of growth of interests (p. 9).

Sixteen authors explicitly denied that there was one best order. Ten, however, answered "Yes" to the question, "Do you believe that some orders are better than others?" and most of the others who did not answer the question directly, in their discussion of it indicated a favorable attitude. Only two, Boring and Janney, answered this question with an explicit negative.

The various formulations of principles for ordering topics in general psychology exhibit interesting contrasts, and provide material for thought on this problem.

The total organism in social relations first, then the atomized organism (Boring on 2).

"In 1948, the important thing about the organism is . . . that it reacts to stimulation. So we . . . start with response. . . ." (From the preface to the 1948 BLW.¹)

The material in chapter 1 is necessary for the understanding of chapter 2, chapter 2 for chapter 3, etc. (Langfeld on 1948 BLW).

Begin with material close to the experience and interest of the undergraduate.

"The person rather than processes should greet the student." The social setting prior to anatomy.

Methodology and philosophy last, in the context of "correct experimental and therapeutic approaches to the problems of human behavior." Otherwise the attempt to inculcate scientific habits of thought becomes merely a semantic exercise (Cole).

Since a number of students will drop out at the end of the first semester, give the basic principles in the first half of the book.

Instead of beginning with history, methodology, and neurology, plunge directly into psychology proper, incorporating these topics as you go along. "The whole text should elucidate method" (Dockray).

Foundations before superstructure.

The nervous system early so it can be referred to later.

Present topics in order of decreasing student interest, although this can be overdone. Students should "some time develop mature interests, provided progressive education hasn't left them with infantile interest habits" (Guilford).

The genetic approach. Life and learning are synonymous (Husband).

"Effectiveness in instruction."

"Begin with topics which the students appreciate as significant and of value for them. All too often, what is supposed to be needed as background fact or theory comes so much first in order and emphasis that the supporting relationships to the later topics are not seen, and the background by itself seems to the students of little real meaning. In short, a psychological rather than a logical order is needed" (Pressey).

From the relatively simple and elementary to the more complex (Munn).

"Management of Learning" first because it is simple and of direct application to lives of the students (Ruch on 1948 revision of *Psychology and Life*).

From the more familiar to the less familiar,

the practical to the theoretical, the concrete to the abstract (Ruch).

"Inductive and logical."

From the relatively simple or relatively familiar to the more complex or less familiar (Shaffer).

If more than one chapter treats the same topic, they should go together.

Start with interesting material if it does not interfere with understanding (Stroud).

From the simple to the complex.

From the more interesting to the less.

Physiological material early if it is to be used later.

Our elementary course is planned around a testing and guidance program conducted early (Varnum).

"From the relatively simple to the relatively complex."

Arouse interest early.

"Help the beginner to get himself oriented to modern psychology by giving him some historical background."

Lead the student gradually into the more difficult and ponderous topics.

"Reserve intelligence for the end" (Vaughan).

Successive chapters should not merely retail isolated facts but should be integrated into "an inter-related pattern" (Wolff).

"Meet the beginner on his own ground, giving him at first something that he readily appreciates.

"Make him aware right away of the scientific character of psychology.

"Advance from easy to hard.

"Still keep as much continuity and logic in the arrangement as the foregoing principles will permit."

The topic of learning is both fundamental and difficult. Should it come early or late? In Woodworth and Marquis (29), the solution is to give an elementary introduction to the topic early (in the chapter on development—chapter 9) and to present the detailed discussion late (chapters 16, 17) (Woodworth).

Despite the diversity evidenced in these remarks, two main themes seem to recur: the order should promote increasing understanding, and it should capitalize on the student's current, perhaps superficial, interests in leading him on to broader, more mature ones.

But these two objectives, as some of the writers recognized, are to some extent incompatible. The basic topics—topics essential to an understanding of the field of psychology—are not always the most interesting to the student. Although, for example, the nervous system receives much less attention in the present crop of textbooks than in those of a decade or two ago (8, 9, 10), a case might still be made out, from the point of view of its fundamental nature, for

¹ Reprinted by permission from forthcoming *Foundations of Psychology* by Boring, Langfeld, and Weld, to be published by John Wiley & Sons, Inc.

early treatment. And yet, as Buxton vividly expresses it, "A course opening with the nervous system, sensation, and perception could well strike a blow to student morale from which it would never recover" (3, p. 305). Many texts postpone discussion of personality, intelligence, "practical applications," until late on the grounds that these are complex topics for which the student is not initially prepared. Prepared or not, there certainly is where the student would like to begin.

A way out of the dilemma may perhaps appear if we differentiate various levels of analysis. A thorough treatment of a given topic may not be necessary for understanding of more complex topics. Sufficient knowledge *for the purpose at hand* may be given in an early chapter; and more detailed, abstract, theoretical discussion postponed until the student has developed, out of his perplexities with practical themes, the motivation for it.

Stroud's statement that all the discussion of a given topic should be kept together seems a logical and modest proposal; yet pedagogically it is not self-evident. Frequently in our practice, of course, we bring in an idea because it is relevant to the discussion even though we cannot always take the time right then and there to say everything about that idea which might be said. Woodworth and Marquis treat the topic of learning in two separate places, and Ruch proposes to do the same in his third edition. These experiments in flexibility merit careful attention.

The order of topics in a textbook should be governed by one primary consideration. That is, as Pressey expresses it, "effectiveness in instruction." A textbook is a teaching aid, and it should be judged as such, not as a systematic contribution to science.

Many assumptions which ignore this premise are therefore fallacious. That "applications" cannot be made until "basic principles" are developed is one of these assumptions (see 13, p. vi). "Who," we may ask, "does the applying?" It is the writer, the professor of psychology, who brings the practical applications to the attention of his readers. Naturally, *he* must have mastered the fundamentals of his subject—or the psychologists whose "applications" he is reporting must have mastered them—before any applications can be made. As Fernberger has said, "It is the systematic structure which has made possible the clinical field and other applications. Pure science must come before application" (10, p.

210). But to say that your audience—no matter who they are—must be presented with the "systematic structure" before any applications may be revealed seems just a gratuitous assumption. Must the student understand Thurstone's factor analysis of intelligence before we can tell him about the different levels of intelligence required by different occupational fields? Cannot we give him a list of recommendations for efficient learning procedures before we lead him through the mazes of reflexology and Gestalt theory? Cannot we explain the psychological factors in friendship before subjecting him to the conflicting evidence on the role of constitutional factors in personality?

A similar fallacy is involved in the glib assumption that the way it happened is the way it should be told. More formally, this is known as the "genetic approach." No short story writer, no scenarist would limit himself in such arbitrary and unimaginative fashion. The professional expositor, whose livelihood depends on his skill, begins in dramatic fashion. He seeks to capture his audience's attention at once, to build up suspense and curiosity. Do we do that in our first chapter discussions of the history of psychology, how psychology is different from physiology, how an embryo develops, and the general plan of the nervous system?

Cattell speaks of the "lowly origin of most scientific interests in relatively undisciplined or even personal interests" (7, p. 6). This phrasing is significant because it suggests that although scientific interests begin in personal interests, they need not end there. It is the rare creature in our classrooms who has an interest in science for its own sake. Men and women come flocking to the psychology lecture hall because they hope to find there some help on personal problems (1). As Newton told us, an object in motion continues in motion until opposed. Once the initial inertia is overcome, or brighter men and women will proceed into the more abstract and theoretical ("scientific") phases of our subject under their own momentum. The problem of order of topics is how to get our students started and, once started, how to keep them going. To accomplish this objective, we need to exploit their readiness for a given topic at a given time. Readiness will most frequently be governed by the natural course of thought. Is not that from the practical to the theoretical, the familiar to the strange, the concrete to the abstract, the larger context to the detail?

To follow such an order of presentation is not

necessarily to sacrifice the scientific quality of our discipline; for it is possible to integrate scholarly ideals with the most effective pedagogical principles.

SUMMARY

The opinions of twenty-seven authors of elementary psychology textbooks on the proper order of topics for the first course are here presented. Few of them thought there was one best order, but most thought some orders better than others. Although the criteria for defining superiority were diverse, two demands were frequently made: understanding and interest. The incompatibility which sometimes may appear between these two may be resolved by differentiating deep from shallow levels of exposition.

REFERENCES

1. BERRIEN, F. K. A new type of elementary course. *Amer. Psychologist*, 1947, **2**, 148-150.
2. BORING, E. G., LANGFELD, H. S., WELD, H. P., ET AL. *Introduction to psychology*. New York: Wiley, 1939.
3. BUXTON, C. E. Planning the introductory psychology course. *Amer. Psychologist*, 1946, **1**, 303-311.
4. CATTELL, R. B. *General psychology*. Cambridge: Sci.-Art, 1941.
5. COLE, L. E. *General psychology*. New York: McGraw-Hill, 1939.
6. DASHIELL, J. F. *Fundamentals of general psychology*. Boston: Houghton Mifflin, 1937.
7. DOCKERAY, F. C. *Psychology*. New York: Prentice-Hall, 1942.
8. EMME, E. E. Content analysis of eleven recent textbooks in general psychology. *J. Psychol.*, 1939, **8**, 285-294.
9. EWERT, H. Review of Vaughan's General psychology. *Psychol. Bull.*, 1937, **34**, 173-174.
10. FERNBERGER, S. W. The future of psychology, or the goose that laid the golden eggs. *Amer. Psychologist*, 1947, **2**, 209-210.
11. GUILFORD, J. P. *General psychology*. New York: Van Nostrand, 1939.
12. HUSBAND, R. W. *General psychology*. New York: Farrar & Rinehart, 1940.
13. MORGAN, J. J. B. *Psychology*. New York: Farrar & Rinehart, 1941.
14. MUENZINGER, K. F. *Psychology: the science of behavior*. New York: Harper, 1942.
15. MUNN, N. L. *Psychology: the fundamentals of human adjustment*. Boston: Houghton Mifflin, 1946.
16. PRESSEY, S. L., JANNEY, J. E., & KUHLEN, R. G. *Life: a psychological survey*. New York: Harper, 1939.
17. RUCH, F. L. *Psychology and life*. Chicago: Scott Foresman, 1937.
18. RUCH, F. L. *Psychology and life*. (New ed.) Chicago: Scott Foresman, 1941.
19. RUJA, H. Content of the first course in psychology. *Psychol. Bull.*, 1943, **40**, 488-496.
20. SHAFFER, L. F., GILMER, B. v. H., & SCHOEN, M. *Psychology*. New York: Harper, 1940.
21. STROUD, J. B. *Introduction to general psychology*. New York: Prentice-Hall, 1938.
22. TIFFIN, J., KNIGHT, F. B., & JOSEY, C. C. *The psychology of normal people*. Boston: Heath, 1940.
23. TIFFIN, J., KNIGHT, F. B., & ASHER, E. J. *The psychology of normal people*. (Rev. ed.) Boston: Heath, 1946.
24. VARNUM, W. C. *Psychology in everyday life*. New York: McGraw-Hill, 1938.
25. VAUGHAN, W. F. *General psychology*. (Rev. ed.) New York: Doubleday Doran, 1939.
26. WHEELER, R. H. *The science of psychology*. New York: Crowell, 1940.
27. WOLFF, W. *What is psychology? A basic survey*. New York: Grune & Stratton, 1947.
28. WOODWORTH, R. S. *Psychology*. (Fourth ed.) New York: Holt, 1940.
29. WOODWORTH, R. S., & MARQUIS, D. G. *Psychology*. (Fifth ed.) New York: Holt, 1947.

PROBLEM-CENTERED TRAINING IN THE DEVELOPMENT OF THE CLINICIAN

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CLINICAL OBJECTIVES AND TOOL-CENTERED TRAINING

THE practical phase of various clinical training programs with which the writer has come into contact, either directly or through the reading of reports, impresses him as being largely tool-centered. A certain battery of tests, e.g., the Wechsler-Bellevue, TAT, or Rorschach, must be mastered by the trainee, usually in a definite order, first the relatively structured tests of intellectual functioning, and finally, such relatively unstructured ones as the projective techniques. By dint of long practice in each (as much as six months to a year spent on the Wechsler-Bellevue), he is expected to develop facility in its technical administration, scoring, and interpretation.

These programs do not seem to provide for the development of the kind of clinician envisioned in present-day formulations (1, 2, 5). Today it is generally agreed that the clinical psychologist is not a psychometrist; that his job is not merely to administer tests and report scores, but to study the entire person, to understand the personality's structure and dynamics, and to discover the role and function of the symptoms. The clinician may play an active role not only in arriving at a diagnosis but in formulating (and at times carrying out) therapeutic measures. He may also conduct research on various clinical problems. Will tool-centered training help to create such a clinician?

While such training may produce proficiency in the use of tools, it appears to lack sufficient provision for the development of clinical acumen and judgment. Moreover, it involves the danger that the student may learn to view the patient as an object for certain tests, and see him as a score or a deviation from norms or patterns of responses. Finally, it does not seem to take into account the possibility of change in the methods and tests employed in clinical psychology.

In discussing the dangers with some clinicians and psychology instructors, the writer has been

assured that they have been offset by academic courses and seminars, taken in universities and clinics, which deal with clinical principles and stress the importance of centering on the patient and employing clinical judgment. However, from what is known of the psychology of learning and transfer of training, it cannot be assumed that principles and cautions reiterated in the classroom, or even in the clinic, need carry over to actual clinical practice.

Various influences appear to be reflected in the tool-centered approach. It may be in part a carryover from the days when the clinical psychologist was a psychometrist, in part a reaction against the extreme intuitive approach used by some clinical psychologists, and also the result of the need for the development and use of objective means of securing information concerning the patient. Its use is fostered by some institutions whose demands are of such a nature that they administer certain tests to all their patients. And it is encouraged by individual psychiatrists and psychologists who have become so sold on the value of certain tests that they insist that they be used with every patient.

Popular as tool-centered training is at present, it still has not been fixed by tradition nor has it received the stamp of approval of the entire profession. Recently, much thought has been given to clinical training programs, and there have appeared outlines of required academic courses and some stipulations as to the content of the clinical experience (2, 3, 4, 5). But actual methods of imparting this experience either are not described in detail, or are essentially tool-centered. It seems to us to be imperative that studies be made of the relationship between present methods and the objectives and ideals of modern clinical psychology, and that attention be focused on the development of training procedures which are in line with those aims and ideals.

As a step in this direction, this paper has already described what the author considers the relationship between tool-centered training and the development of the modern clinician. The remainder of the paper

will deal with training methods which the writer devised on the basis of his experience with clinical training programs in three army hospitals, and while conducting such a program for undergraduate students at Yeshiva University. These methods, which may be employed in graduate and undergraduate training, are patient- and problem-centered. They are being submitted, not as ideal procedures, but as possible bases for discussion and planning.

PROPOSALS FOR TRAINING

Training in observation. Before any tests are presented, the students are given experience in observing behavior of people in free, test, and experimental situations. They describe their observations in their own words and compare reports. This is done to teach them to use their eyes and ears, and to furnish confidence in their judgments. The underlying hope is that when psychological tests are taught, students will not become so dependent upon them that they fail to view the patient freely; that they will not become so overwhelmed by the magic of numbers and norms, that they stick too rigidly to them in their interpretations of the patient's problems; and that they will realize the possible clinical value of their hunches and feelings.

Formal introduction to the tools. The study of examining procedures is motivated by discussions of an actual personality problem. As means of understanding and solving this problem, the instructor suggests the use of various interview procedures, psychometric, or experimental devices. A currently and prevalently used technique to study such a problem is then demonstrated. Students are assigned to read pertinent literature concerning the tool, and to practice it in special practicums or laboratory sessions, and in individual study. They are required to submit reports of their findings and to answer certain questions concerning the history, utilization, and limitations of the technique.

Reverting back to the particular motivating problem, the instructor discusses at length specific ways in which the tool applies to it, in what areas it leads or does not lead to valid and reliable information, and how it clarifies or beclouds the issues. Generalizations are then drawn for wider clinical utility of the device. The personality problem is then further discussed in order to see what other procedures may be used and the major methods are in turn demonstrated and made the subject of intensive study.

Provision is made for the continued practice of various clinical techniques (in laboratory sessions, the clinic, and individual study) once they have thus been introduced.

In the course of dealing with one problem, the instructor may present a number of interview and questionnaire methods, tests of intelligence, interest, aptitude, personality, etc. This is a departure from customary teaching which introduces examining techniques, particularly tests, grouped according to the functions they are purported to measure.

As the course advances from problem to problem (some of which clearly call for certain procedures, while others do not), the student's facility in the selection and use of tools is given the opportunity to mature. The final few problems are used as test situations, in which the student proposes examining procedures, and discusses how they apply to the problem. His ability to administer, score, and interpret the results yielded by various devices is tested in laboratory periods.

Introduction of examining procedures as an outgrowth of concrete problems may help to develop some acumen and judgment in the selection of clinical tools. It may bring about better perspective of the role and function of the device in examination and treatment. Finally, it may give some indication of gaps in our present knowledge of studying the human personality, and highlight the necessity for changes in present-day procedures and for development of new methods. We might point out that these same guiding principles underlie the subsequent methods.

Training in clinical case seminars. Various case seminars are conducted. In one the group is read portions of reports: (1) the patient's behavior during the initial interview and upon admittance to the institution; (2) the clinician's impressions on this basis; (3) examining procedures; (4) results and their interpretations. After each phase, the reading is interrupted and the students asked to give their impressions and expectations. Thus, before they hear the second part of the report, they are asked to submit their impressions of the patient on the basis of his initial behavior; the differences between the class and the clinician, or among the students, are noted and discussed. Similarly, before they hear the third portion, they are asked how they would examine the patient; after learning what techniques were employed and the reasons for their choice, they are asked to predict the results. The clinician then

describes and discusses results and interpretations and deals with possible discrepancies between students' predictions and obtained findings.

In another type of seminar, the clinician's examination of a patient (or of someone who is acting in the role of a patient) is observed by the group, preferably through a one-way vision screen. The clinician terminates the examination after a preliminary phase in which the patient or confederate may have stated his complaints and answered some questions, and asks him to return at some later time. In the interim, students write their impressions of the patient and describe procedure that they would employ, giving substantiating reasons for their choices. The clinician discusses their reports and then states what he intends to do, and why. At the appointed time, the group observes the subsequent examination, and later discusses with the clinician the data and interpretations of them, and any changes from the announced methods.

When these demonstrations are scheduled as tests, the clinician may deviate from standard methods or, if a confederate is used, deliberately err in his choice or administration of a test, in order to see whether the student will be aware of the deviation and the reasons for it, or discover the error. In reading the report of the examination, he may delete or misconstrue certain aspects of the patient's behavior, or misinterpret the data, in order to see whether the students will make proper corrections.

Clinical Practice. When the student is deemed ready for it, he is admitted into the actual training portion of the program. In this he is assigned to one clinician at first (and later to two or even three) with whom he follows a patient from the initial interview until the final disposition.

Together, the clinician and trainee deal with the patient. At first the trainee may only question and be questioned concerning impressions, procedures, and interpretations. As he demonstrates proficiency, to the satisfaction of the clinician, in certain techniques, he takes over the related aspects of the examination, and gradually, the entire examination, under the observation and guidance of the clinician. Finally, he alone is assigned to a patient, and works him up, under the supervision of the clinician.

As far as is practicable, the above pattern is used with regard to the therapeutic process. The trainee should observe the patients in the wards, during group therapy, occupational therapy, during and after shock therapy, etc., and, if possible, play an increasingly active role in the administration of various therapies. This may help him to understand the nature and function of the treatments, and of the changes they produce. He may begin to see whether the diagnosis appears to be valid, and the therapies well selected. Moreover, he may become sensitive to the needs for developing techniques of predicting and controlling the type of treatment needed by a patient and of ascertaining the outcomes of the therapies.

ANALYSIS OF PROPOSED METHODS

In the proposed training, as opposed to tool-centered training, the focus is on the patient's behavior and on the problems he presents. It is aimed at making the student realize that there is no one battery of tests, no one formula for action; that each patient is a unique case to be observed, studied, and treated as an individual entity; and that one must learn to draw from a reservoir of knowledge of experimental, clinical, and psychiatric skills, those techniques which fit the needs of the particular patient. The trainee may become aware, in his work with case records and patients, of his shortcomings as a clinician and of the shortcomings of his instruments, of the need for improving his ability as a clinician, for improving available techniques, and for developing better ones through adequate study and research.

REFERENCES

1. HAWLEY, P. R. The importance of clinical psychology in a complete medical program. *J. consult. Psychol.*, 1946, **10**, 292-300.
2. MILLER, J. G. Clinical psychology in the Veterans Administration. *Amer. Psychologist*, 1946, **1**, 181-189.
3. SEARS, R. R. Clinical training facilities: 1947. *Amer. Psychologist*, 1947, **2**, 199-205.
4. Graduate internship training in psychology. Report by the Subcommittee on Graduate Internship Training. *J. consult. Psychol.*, 1945, **9**, 243-266.
5. Symposium: The Veterans Administration and clinical psychology. *J. clin. Psychol.* 1947, **3**, 1-56.

Comment

Advertising in Telephone Directories.

To the Editor:

After analyzing the advertising of psychologists in one telephone directory (*Amer. Psychologist*, April, 1948), I became interested in other cities. Presented herewith is a list of the largest American cities, with the number of psychological advertisements in the telephone directory of each. The correlation between size of city and the number of psychological advertisers is +.64 by the Spearman method. Only five large cities have more than ten names listed, while four have none. The West Coast has more than its share of such advertisements.

Advertising Psychologists

CITIES IN ORDER OF SIZE, 1940 CENSUS	RANK BY POPULATION	RANK BY NO. OF ADVERTISEMENTS	TOTAL NO. OF ADVERTISEMENTS	NO. OF SEPARATE INDIVIDUALS LISTED	ADVERTISERS LISTED IN APA YEARBOOK	ADVERTISERS LISTING ACADEMIC DEGREES	ADVERTISERS LISTING APA MEMBERSHIP
New York City.....	1	1	105	71	17	3	—
Chicago.....	2	3	40	25	6	8*	—
Philadelphia.....	3	5	10	7	2	—	—
Detroit.....	4	8½	6	3	1	—	—
Los Angeles.....	5	2	71	55	8	11	3
Cleveland.....	6	15	3	3	1	—	—
Baltimore.....	7	8½	6	5	0	1	—
St. Louis.....	8	10½	5	3	0	—	—
Boston.....	9	7	7	6	0	—	—
Pittsburgh.....	10	16	1	0	0	—	—
Washington.....	11	18½	0	0	0	—	—
San Francisco.....	12	4	18	13	1	1	1
Milwaukee.....	13	13	4	2	0	—	—
Buffalo.....	14	18½	0	0	0	—	—
New Orleans.....	15	18½	0	0	0	—	—
Minneapolis.....	16	13	4	2	0	—	—
Cincinnati.....	17	6	8	5	2	1	—
Newark.....	18	13	4	2	0	—	—
Kansas City.....	19	10½	5	3	0	—	—
Indianapolis.....	20	18½	0	0	0	—	—
Totals.....			277	205	38	24	12

* Through Illinois Association for Applied Psychology.

Chicago's directory was different. A Public Information Service has been advertised by the Illinois Association of Applied Psychology for two years. It is prominently listed near the top of the Psychology Section. The secretary of IAAP, Milton A. Saffir, in response to my inquiry, wrote that during the period of January to July, 1947, there were 202 inquiries, 8 made in person, 25 by mail, and 169 by phone. The Executive Committee of the IAAP recently solicited opinions about the service from their members who were private consultants. The

response was overwhelmingly in favor of this project. No other city has a similar one.

HENRY P. DAVID

University of Cincinnati

Caution to APA Members about Advertising.

To the Editor:

Two articles in the April issue, by Dr. Shoben and Dr. David, expose the horrors now occurring under the listing of "Psychologists" in Classified Telephone Directories of the nation. The names of quacks outnumber the names of legitimate practitioners.

The authors suggest various desirable remedies including certification, licensing, a campaign of public education, and co-operation with Better Business Bureaus. One suggestion, however, seems to me to require special comment because of the complications it might create. I refer to Dr. David's proposal that members of professional organizations who desire to advertise services in the Classified Telephone Directory "mention their professional association as well as list degrees and specialties."

Since the APA has as yet no definitive code of ethical practice, the Committee on Scientific and Professional Ethics has had to improvise standards and give advice in reference to many matters, including advertising, on a somewhat tentative basis. It has seemed to this Committee that a listing of one's name, or a dignified professional card, gives no offense to the ethics of the Association. (In one case, I regret to say, a member of the Association inserted what seemed to the Committee a lurid and objectionable card.)

The point at issue is whether any statement to the effect that the advertiser is a member of the American Psychological Association is wise and desirable. The Committee is inclined to advise against this practice, on the grounds that mere membership in the APA does not in fact constitute the Association's endorsement of the member in respect to those professional skills that he may be called upon to supply as a consequence of his advertising. The reader of the advertisement may interpret the membership as certification of competence. Since the Association now has its machinery for certification, and since certain states are moving toward the licensing of psychologists, it seems to the Committee that these attestations of competence are the proper recommendations for members to employ in their professional announcements. Membership in the APA should not be stated in any context where it may be misinterpreted as equivalent to endorsement for clinical practice.

GORDON W. ALLPORT

Chairman, Committee on Scientific
and Professional Ethics

Prior Publication.

To the Editor:

A policy of prior publication of articles paid for by their authors can certainly be used to increase the budgeted number of pages per volume without additional cost to the APA, but this circumstance does not necessarily justify the policy unless one assumes that it is better to have more pages per volume. Time was when psychologists could keep up with almost everything their colleagues wrote. Now it is necessary to have abstracts, and before long it may be necessary to have abstracts of abstracts. The APA is already a bewildering organization, and it has been estimated that by 1970 the membership will be 40,000. Then indeed the shelves for psychology will sag, for deans and departmental chairmen will undoubtedly still continue to count printed pages in their recommendations for promotion. The promotion of psychology as a science, however, is not so easily assured by merely noting the number and thickness of its printed documents.

It might be argued that one sign of a science coming of age is the conciseness of its articles. Wit is surely not the only commodity which brevity is the soul of. Too many articles in our professional journals are interminably long drawn out after the fashion of a PhD thesis. In any event, the APA should weigh the desirability of asking its editors to give preferment to articles in which superfluous embellishments have been minimized. In this way the cause of psychology as a science might be promoted and the vexing problem of lag in publication partially solved.

Among the various motives which may induce an author to pay for immediate or prior publication there would seem to be at least one element in common. The author surely must believe that early publication is an advantage to him, otherwise it is difficult to understand why he is willing to pay \$8 or \$10 a page when by waiting for his turn the cost of publication would be taken care of by the APA. If he derives a feeling of satisfaction and advantage from prior publication, it is more than likely that those who can not afford the cost will feel themselves at a corresponding disadvantage. It does not matter whether the disadvantage is real or not, nor whether the practice of prior publication has any effect on the date of publication of those articles submitted by authors who can not pay for them. The question before the APA is a psychological one. Does it wish to encourage a policy which almost certainly will cause impecunious members to feel that the association regards their vanities as less deserving of being puffed up than those of their economically more favored competitors?

CARROLL C. PRATT
Princeton University

Manual of Test Norms.

To the Editor:

In recognition of the need for a comprehensive source of normative test information, the Student Counseling Bureau of the University of Minnesota is in the process of compiling a manual of test norms for standardized tests currently used with college students and other adults. The first step in this process is to identify relevant distributions of scores obtained after January 1, 1945, for groups where N equals or exceeds 100.

After these distributions are identified, the distributions themselves will be solicited as needed and complete descriptions of the groups tested obtained. From these distributions, tables of percentile scores and standard scores will be derived and distributed.

Such a project must be a cooperative effort and key people throughout the country are being asked to provide the names of tests they have used in testing programs and for which distributions will be available. I will be glad to provide additional information about the project upon request.

RALPH F. BERTIE
Student Counseling Bureau, Minnesota

Psychological Library of Broadcast Transcriptions.

To the Editor:

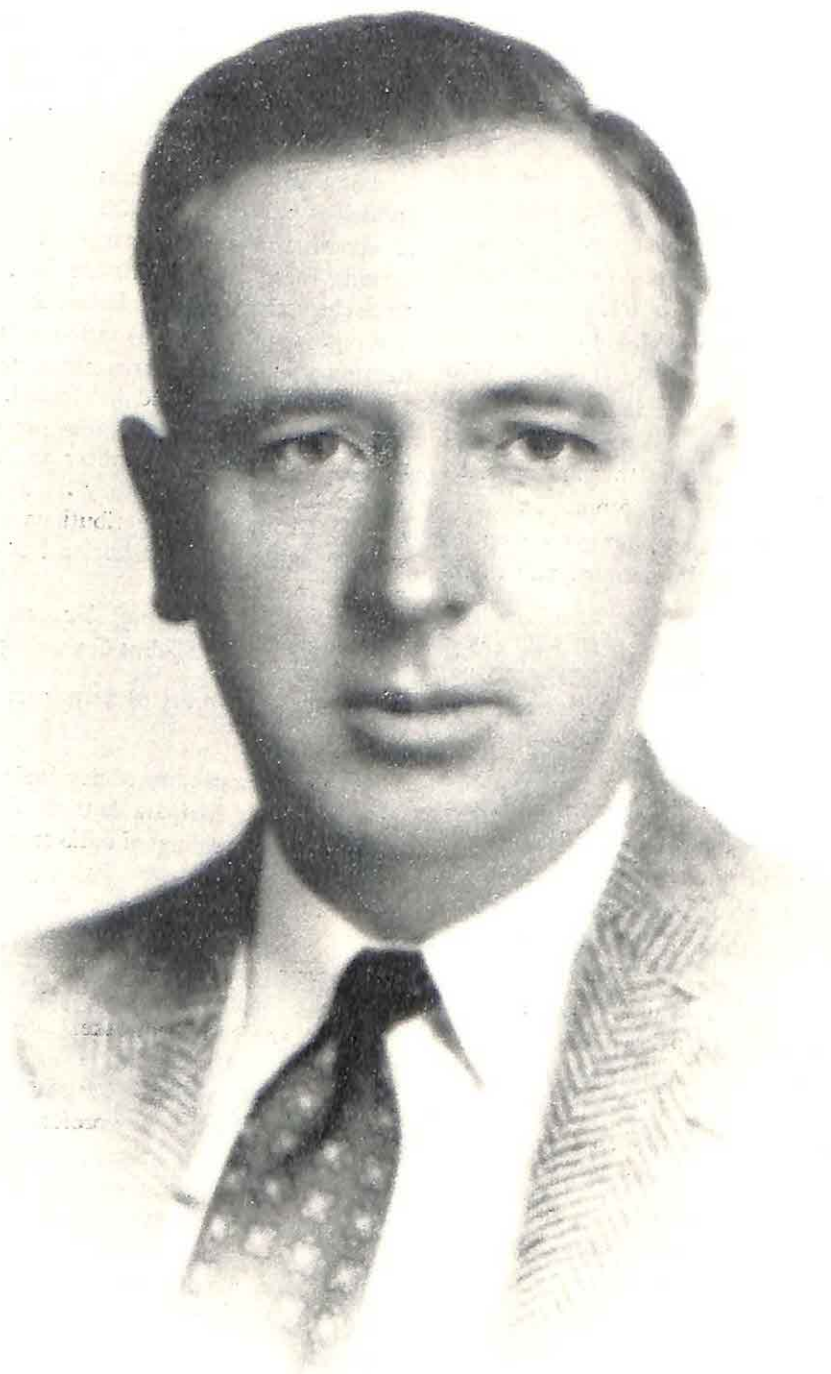
Is there a possibility of developing a library and distribution point, comparable to the Psychological Cinema Register, for recordings of radio programs concerned with topics in psychology? There is considerable really worthwhile broadcasting of this sort, and I, for one, would welcome an opportunity to make use of some of these programs. In fact, when I was at West Point, I borrowed eight or ten original transcriptions from WMCA, and had them taken off on a wire recorder for use there.

It occurred to Sidney Pressey and me that a service might be rendered to the profession if some department such as ours were to solicit the aid of others in collecting all such transcriptions and making them available for distribution for professional use. Such an undertaking would have to be cooperative on the part of members having strategic distribution geographically, but with a central administrative, transcribing, and distributing office.

It might be possible that such distribution need not be confined to schools and training centers, but also, through appropriate arrangements might be made available to local radio stations. It might be possible to borrow the original transcriptions of such broadcasts and take off from them, simultaneously, six or eight recordings on wire or tape for such distribution.

I would like to correspond with anyone interested in this project.

T. ERNEST NEWLAND
University of Tennessee



CLARENCE H. GRAHAM
Professor of Psychology, Columbia University
President, Division of Theoretical-Experimental Psychology
Member, Board of Directors and Policy and Planning Board of the APA

Across the Secretary's Desk

PSYCHOLOGY AND CLINICAL PSYCHOLOGY

No topic in the last few months has demanded so much of my time as the problem of adequate training for clinical psychologists. Students by the score want to know where they can get good training. Department chairmen want new staff members. Students want internships and hospitals want interns. We receive, print, and reject more articles and news items about clinical psychology than about any other one topic in the *AMERICAN PSYCHOLOGIST*. Much of the time of APA boards and committees of the past three years has gone into discussions of how we can best meet the immediate demand for clinical psychologists, what kind of training clinical psychologists should have, what schools can best give that training, how much of it should be pointed toward research and how much toward practice, and all the details that these larger questions bring up. Consideration of these problems must continue, but it is time now to consider also some of the consequences of our present emphasis on clinical psychology.

Last month a letter of great importance on the training of clinical psychologists came from the Veterans Administration. Its importance stems partly from the fact that the Veterans Administration is the largest employer of clinical psychologists in the country, and partly from the fact that it summarizes the advice of a distinguished group of psychiatric advisors. The letter, from the Chief Medical Director of the VA to the President of the Association, follows:

Dr. Donald G. Marquis, President
American Psychological Association

Dear Dr. Marquis:

At the recent annual meeting of the Advisory Committee for the Neuropsychiatry Division, Department of Medicine and Surgery, Veterans Administration, the resolution shown below was unanimously approved and is herewith brought to your attention.

"The Veterans Administration thanks the American Psychological Association and its Committee on Training in Clinical Psychology for undertaking, largely at the request of government agencies, the task of accrediting training centers. This task is properly within the scope of the American Psychological Association and is not a government

function. However, it is suggested that, in addition to present standards:

- a. Attention be given to requiring more medical participation in the training of clinical psychologists,
- b. Progressive increases in standards be planned year by year, and
- c. The expansion of training be placed in accordance with the number of qualified personnel available for instruction and supervision."

I should very much appreciate your bringing this to the attention of your membership and especially your Committee on Training in Clinical Psychology.

Sincerely yours,

/s/ Paul B. Magnuson

Paul B. Magnuson

Chief Medical Director

Everyone agrees that if clinical psychology is to flourish as a profession, clinical psychologists must have the best training they can be given. One main trouble is that nobody knows what the best possible training is. The first of the three recommendations in Dr. Magnuson's letter, however, summarizes a point on which there is growing agreement, that of "requiring more medical participation in the training of clinical psychologists."

Clinical psychologists who expect to work with medical colleagues in a hospital setting will profit from three aspects of medical training: (1) They should have a general familiarity with problems of disease, diagnosis, and medical treatment, not to make them into medical men but to make them better members of a team which includes medical men. (2) They should have considerable familiarity with psychiatric thinking and practice. (3) They should have experience in cooperating with the other members of the neuropsychiatric team in the common effort to help a patient. Lecture courses taught by psychiatrists will help secure the second of these training needs. Internship in a hospital will provide the third.

We can therefore accept the first recommendation of Dr. Magnuson's letter. We can even amplify it: there ought to be some medical participation in the training of psychologists who expect to engage in counseling work with normal clients. The relations are less direct and immediate between the guidance psychologist and the medical practitioner, but some knowledge of psychiatry and general medicine will

prove useful to a guidance psychologist just as some knowledge of psychology will prove useful to a pediatrician.

The advantages of cooperative effort in the training of clinical psychologists and psychiatrists are reciprocal. Months before this letter was received, the American Psychological Association and the American Psychiatric Association formally agreed upon the desirability of having part of the training of each group of students given by a diplomate in the other specialty. For those who fear that such a program means medical domination of psychology, let me emphasize the reciprocal relations involved. Psychiatry is certainly influencing psychology. But psychology is also influencing psychiatry. The psychiatrist and the clinical psychologist each brings to the clinical situation a background of training and a type of thinking originally unique to his own discipline. But let the two cooperate in trying to help a patient, let each show what he can contribute and each gains respect for the other. Good students in either discipline taught by mature experts in the other, and good students in both disciplines interning together, will certainly develop respect for each other.

The second recommendation in Dr. Magnuson's letter is that "progressive increases in standards be planned year by year." The reference, of course, is to the standards by which the APA's committee evaluates graduate departments offering the PhD in clinical psychology. This recommendation too can be taken without argument. The APA has adopted a program of accreditation of graduate training in clinical psychology. To be consistent it must move toward the time when it can say to the government agencies, to prospective students, and to the universities themselves, "Here is a list of schools all of which are fully approved as training institutions for clinical psychology. These are Class A schools." Schools which do not measure up to the adopted standards can be named in a "Class B" list or can simply be left off the list entirely; they must not be included with the Class A schools in the hope that they will repair their deficiencies at some time in the future.

The last recommendation of Dr. Magnuson's letter is that "the expansion of training be placed in accordance with the number of qualified personnel available for instruction and supervision." Again we can agree. There is no substitute for quality in clinical psychology any more than in academic psy-

chology. Every graduate school has more applicants than it can accept. The most rigorous possible selection is necessary to keep quality high and numbers within reasonable bounds, for we cannot afford to endanger our professional reputation or our opportunities for future usefulness by answering present demands with inadequately trained people.

All three recommendations assume that we are obligated to meet the demand for clinical psychologists who can render wise and skillful service to their patients. But training such persons does not fulfill psychology's obligations to the clinical field. Psychology is a research science. In the long run it is more beneficial to society for a psychologist to make a research contribution to our knowledge of human behavior than it is for him to help an individual patient. The VA has recognized this need in attempting to have its clinical psychologists devote 30 per cent of their time to research. VA psychologists, however, are falling far short of this goal. They report an average of about 10 per cent research time. Many studies of the kind discussed by Laurance Shaffer in his presidential address last year to the Division of Clinical and Abnormal Psychology are needed (*Amer. Psychologist*, 1947, 2, 459-467). The clinical psychologist who can conduct such studies is contributing much more to the development of his field than is the one who spends an equal amount of time seeing patients.

The recommendations in Dr. Magnuson's letter are important, but they should never mislead the APA or the universities into thinking that their primary obligation is to train better practitioners. Psychology's fundamental contribution is as the science of human behavior, not as an applied art.

Finally, all this emphasis upon clinical psychology is an overweighting of one aspect of psychology. Clinical psychology's problems are important and urgent. The rapid growth of the field means that these problems must be dealt with now. In 1928 the APA had 700 members; 70 (10 per cent) of them belonged to the Clinical Section. The 1948 Directory lists 5047 members; 800 (16 per cent) of them belong to the Division of Clinical and Abnormal Psychology. The future will see even greater growth; of 4000 graduate students now in our colleges, 1700 (43 per cent) are specializing in clinical psychology. Pressure from the VA and the Public Health Service, pressure from students who see an attractive career in clinical psychology, and pressure from clinical psychologists (who were too long a

neglected minority within psychology) all force the APA to pay a great deal of immediate attention to the problems of training clinical psychologists. But those pressures must not blind us to psychology's role as a science.

Biology gets along better as a science than it would as a minority group within medicine. Physics has greater freedom to advance as a science than it would as a minority group within engineering. Medicine and engineering are socially useful disciplines, but their orientation must necessarily be toward application even though there is an opportunity for research in both fields.

Clinical psychology has somewhat the same relation to psychology as medicine and engineering have to biology and the physical sciences. But there is this difference: we have not, at least not yet, reached the time when it seems desirable for the applied group to become a separate organization with a different degree given by different training institutions. One reason for the closer unity in psychology is our profound ignorance. We do not know enough to be ready to establish a separate profession of applied psychology.

We must, of course, do everything we can to improve the training and practice of clinical psychology. But the current emphasis upon the urgent problems of that field will be disastrous for us all if we let the solutions to those problems interfere with the progress of psychology as a whole. Our primary obligation is to advance our knowledge of human behavior. That obligation transcends our individual interests in clinical or industrial or any other special branch of psychology.

HOW TO LOSE YOUR VOTE

Only 37 per cent of the 5047 members of the APA returned votes which contributed to the election of 1947-48 officers of the APA and its divisions. The published deadline for receipt of ballots was July 22, 1947. We actually closed the voting on July 25th. At that time only 1892 ballots had been received. By November, 1947, when we stopped counting, 2002 ballots had been returned. One hundred and ten people had therefore lost their votes through being late.

Additional members lost their votes through marking ballots incorrectly. The preferential voting method used by the APA is the Hare system, which demands that the candidates on any slate be ranked in order of preference. Under this system the 1st choices are separated into groups and counted. The

candidate with the smallest number of first choice votes is eliminated. Those who voted for him have their 2nd choices promoted to 1st and these are distributed into the remaining groups. The smallest remaining group is now distributed among the others. This process is continued until one candidate receives a majority of the votes.

When more than one candidate is to be elected from one slate, as in the case of Division Representatives, the process of distributing the ballots into groups is carried to the point of the number of candidates to be elected.

Whenever a voter uses checks instead of rankings to indicate his preferences, trouble ensues. If only one candidate is to be elected, one check can be called the 1st rank. But if that candidate is eliminated, there is no ranking among the remaining candidates and therefore this ballot must be discarded.

As it works out, more votes are lost when more than one candidate is to be elected from one slate. The list of candidates grows longer, the ranking task is more arduous, and the voter tends more frequently to use checks. However, if he had ranked the candidates only as far as the number to be elected, his ballot could at least have been used in the preliminary sortings. If he uses more than one check, his ballot must be discarded at once.

In the different divisions, the loss of votes through using checks or through not marking the ballot for a position ranged from a high of 23 per cent in the Division of Educational Psychology to a low of 5 per cent in the Division of Theoretical-Experimental Psychology. No votes were lost on the first round of tallying for President-Elect; that is, members who voted at all voted with a single check or with at least a single rank.

For APA and division positions, the percentage of loss as a whole was 9 per cent (1049 votes of 12,051 cast). The losses in voting in the 1947 election are summarized below:

3045 APA members did not vote at all.

110 APA members did not vote until too late.
1892 APA members had their ballots tallied.

Of these,

1049 votes for specific positions could not be used.

11002 votes for specific positions could be used.

Only 37 per cent of APA members voted in time to have their votes counted. Only 91 per cent of these ballots were marked properly so that they could be counted. On the average, therefore, our officers were elected by 34 per cent of the electorate.

THE NOTES AND NEWS COLUMNS

New Rule: May I request that Notes and News items submitted by members be signed? Otherwise it seems best not to publish them. Here is a simple formula to use in submitting items:

1. Type the item on a separate piece of paper. Do not include it in a letter on other business. Address it: For the Notes and News. After the item use the formula:

Submitted by $\frac{\text{(signature)}}{\text{(typed name)}}$

2. It is convenient for the editor of the Notes and News to have items written in the third person since that is the way we print them. We do not normally print titles. Give the first name instead of an initial; in an association of our size, initials and the last name are no longer sufficiently identifying.

Policy about Notes and News. Every member is invited to submit news items. Many of them come from members, although we secure many others from publicity releases. Others come from personnel placement letters, conversation, journals and newspapers. Most items are shortened before going to the printer. Each month the Notes and News editor has the task of reducing a basketful of accumulated items to from three to six pages of printed copy.

The amount of space given to news items varies from one issue to another, but in any particular issue we always know exactly how much space we have to fill. The space limitation may mean that some items must be left out. Announcements of vacancies are never omitted. Personal items telling of the move of a member from one place to another are the next most certain to survive cutting. As far as I can remember we have eventually published all such items. When the items announced a move to be made in the future, however, we have sometimes postponed publication to make room for more immediate news. Items dealing with meetings that have already occurred are relatively likely to be postponed or omitted if there is pressure for space. One thing that rarely gets printed at all is an announcement of the promotion of one individual. A generalized description of a department may include promotions, however. We know it is frequently more complimentary to be promoted at one institution than to secure a promotion by moving to another place; still there is news value in the move

that the promotion does not have. At the very least, the mover wants his friends to know where they can write to him.

In order to keep Notes and News more timely we send them to the printer after the remainder of the issue is in type. For example, the items for this issue left the office on May 18. Items submitted for any issue should be received at least by the 15th of the preceding month.

RESULTS OF ADVISORY BALLOT

Last September the Council of Representatives instructed me to circulate an advisory ballot to all APA members to secure their judgment on three points. Those ballots were mailed out with the nominating ballot last February. Here are the results:

One question was whether the members favored raising the minimum requirement for Associate membership to the PhD level. The change was not to become effective until some time in the future and would not alter the membership status of persons in the APA at the time of the change. The vote was 1230 to 861 against the change.

The second question was whether the APA should ask the Conference of State Psychological Associations to draft model legislation setting the requirement for legal certification by the states at the level of the PhD plus one year of experience. The vote was 1336 to 732 in favor of this proposal.

The third question was on the preferred time of holding our annual meetings. Members were given a chance to indicate their first, second, and third choice and also to indicate any time when it is regularly impossible for them to attend. Early September had 820 first choices, many more than any other time. The next highest contender, late August, had 244. Weighting first, second, and third choices and combining the weighted scores gave a total score of 3174 for early September. The nearest contenders and their scores were: early August, 1615; the week following Christmas, 1260; and June, 1016. Trailing the field was early December with a score of 149. Answers to the question "At what times is it regularly impossible for you to attend?" ranged from a high of 446 (early December) to a low of 137 (late August). The next lowest total was for early September, 182 voters.

These results show a clear preference for early September—the time at which meetings have been held since 1931.—DAEL WOLFE

Psychological Notes and News

D. W. Pearce of Kent State University died March 7, 1948.

Howard L. Kingsley of Boston University died April 7, 1948, at the age of 55.

Helen Thompson Woolley, for many years professor at Teachers College, Columbia, died on December 24, 1947.

Henry Beeson Rutter, chief psychologist for the

Western Penitentiary, Pittsburgh, died on January 31, 1948.

Ivy Campbell Fisher of Wells College died April 22, 1948, at the age of 60.

J. W. Barton of the University of Idaho died May 3, 1948.

Charles T. Burnett, a member of the APA for 42 years, died in 1946 in New York.

Karl F. Heiser has been appointed by the APA Board of Directors as a special consultant to the Executive Secretary's office on problems of certification and licensure. Dr. Heiser steered the Connecticut certification bill, the first of its kind, through the Connecticut legislature. His services as a consultant will be available to state psychological associations in states which are contemplating similar legislation.

Steuart Henderson Britt, associate director of research for the past two years at McCann-Erickson, Inc., has been promoted to the position of manager of the Research and Merchandising Department.

Princeton University granted a six month's leave of absence to **Hadley Cantril**, who is in Paris supervising UNESCO's project on "*Tensions Affecting International Understanding*". **Otto Klineberg** will join the project this summer as a consultant and in September will replace Dr. Cantril as supervisor.

Frederick P. Watts, formerly Assistant Chief Clinical Psychologist, VA Mental Hygiene Clinic in Philadelphia, is now associate professor of psychology and director of the counseling service of the College of Liberal Arts at Howard University.

Gregory Razran was awarded a Guggenheim Fellowship for 1948-49. During Dr. Razran's sabbatical leave, **Edward M. L. Burchard** will serve as acting chairman of the Queen's College department of psychology.

Lloyd G. Humphreys, now director of counseling at the University of Washington, will join the faculty of Stanford University in September as an associate professor of education and psychology.

Harry Helson has been appointed acting professor of psychology and Thomas Welton Stanford Fellow at Stanford University for 1948-49, while on sabbatical leave as head of the department at Bryn Mawr.

Carol F. Creedon, now at Vassar, has accepted a teaching appointment at Swarthmore for the coming year.

Paul H. Schiller of the Yerkes Laboratories has received a grant of \$500 from the American Philosophical Society to pursue his studies of learning in the octopus. Dr. Schiller has recently lectured at Duke and Cornell. This summer he will be visiting lecturer at the University of Chicago, teaching courses on comparative and Gestalt psychology.

Charles L. Odom, formerly personal counselor in the VA, Rehabilitation and Education Division, is now chief clinical psychologist at the VA hospital, New Orleans, where he will coordinate the training activities of the clinical psychology trainees from Tulane University.

Lucien Warner, formerly research director for Life Magazine, has taken the post of professor of biology and psychology at the Claremont Men's College, California.

Seymour M. Blumenthal of Brooklyn College joined the staff of the University Guidance Center of the University of Miami on February first.

Robert B. MacLeod, now chairman of the department and director of the psychology laboratory at McGill University, Montreal, will this fall assume a similar position at Cornell University.

Philip Worchel of Tulane University has joined the staff of the University of Texas as associate professor.

Stephen M. Corey, at present professor of educational psychology and dean of students in the Social Science Division at the University of Chicago, has resigned to accept a position October 1 at Teachers College, Columbia University, where he will be professor of education and executive officer of the Horace Mann-Lincoln Institute of School Experimentation.

Virgil E. Herrick, at present associate professor of education at the University of Chicago, has resigned to accept the position of professor of education at the University of Wisconsin, beginning with the summer session.

Chester W. Harris, at present assistant professor of education at the University of Chicago, has resigned to accept the position of associate professor of education at the University of Wisconsin, beginning with the fall semester.

Lee J. Cronbach, at present assistant professor of education at the University of Chicago, has accepted a position as associate professor of education at the University of Illinois, beginning with the fall semester.

Lynde C. Steckle, formerly at Denison University, Granville, Ohio, has joined the Cleveland staff of Rohrer, Hibler, and Replogle.

Richard N. Sears is at present assistant general manager of Bates Shoe Company, in Webster, Massachusetts. He was listed by error in the 1948 Directory as a resident of Northville, Michigan, and as chief clinical psychologist at the VA Mental Hygiene Clinic in Detroit. This location and position belong instead to **Richard Sears**, whose address in the Directory is correct.

Marianne Beran accepted, in May, an appointment as clinical psychologist with the VA Hospital at Lyons, New Jersey.

Alvin J. Kleinsasser has accepted a position as assistant professor at Southern Methodist University, beginning with the fall term.

Frank K. Shuttleworth will teach at the University of California this summer. He will be on sabbatical leave from CCNY next year and plans to remain in Berkeley for research and writing.

Clairette Armstrong and **Frances Triggs** are going to Edinburgh in July to attend the International Psychological Congress as well as the Mental Health Conferences in London.

J. E. Wallace Wallin, retired State Director of Special Education and Mental Hygiene in Delaware, will conduct a graduate workshop for teachers of mentally handicapped children in the Northern Colony and Training School at Chippewa Falls, Wisconsin from June 21 to July 30.

J. Konorski, the well-known Polish psychologist, has opened his conditioning laboratory in Lodz, Poland. He has written Gregory Razran that his laboratory and library in Warsaw were completely destroyed and that he would very much appreciate receiving offprints from American psychologists working in the field of conditioning. His address is: The Nencki Institute of Experimental Biology, 66 Podludnowa, Lodz, Poland.

Vidkunn Coucheron-Jarl, chief of the Psychological Division of the Norwegian Armed Forces, is a guest of the American Psychological Association during the spring months. He has attended Eastern and Midwestern Psychological Association programs and has visited Army, Navy, and Air Force headquarters and installations.

L. L. Thurstone, Charles F. Grey Distinguished Service Professor of Psychology of the University of Chicago, has been elected a member of the American Philosophical Society.

Ernest R. Hilgard of Stanford University and **Curt P. Richter** of the Johns Hopkins Medical School have been elected to the National Academy of Sciences on nomination by the Section of Anthropology and Psychology. **Hallowell Davis** of Washington University and the Central Institute for the Deaf in St. Louis and **H. K. Hartline** of the Johnson Foundation of the University of Pennsylvania have been

elected to the National Academy of Sciences on joint nomination by the Section of Anthropology and Psychology and the Section of Physiology and Biochemistry.

The Section of Anthropology and Psychology in the National Academy of Sciences has been divided into two separate sections, a Section of Anthropology and a Section of Psychology. There are nine anthropologists in the Academy and twenty-three psychologists, and it is expected that the division will provide greater autonomy for the anthropologists, who have here-to-fore been a small minority in the Section.

The Department of Psychology of the University of Michigan announces its first post-doctoral Institute in Clinical Psychology to be held at Ann Arbor from July 7 to August 2, 1948 inclusive.

The Institute is designed to provide intensive training in current clinical techniques combined with a critical review of pertinent theoretical, clinical and experimental data relating to personality functioning, psychopathology and therapy. The program, limited to twenty-four candidates, will be conducted by **Max L. Hutt** and **Urie Bronfenbrenner**, University of Michigan, **John Darley**, University of Minnesota, **Richard Sterba**, president of the Detroit Psychoanalytic Society, and **George Richardson**, psychiatrist at the Neuropsychiatric Institute of the University Hospital, University of Michigan. Inquiry may be directed to Dr. Max L. Hutt, Department of Psychology, University of Michigan, Ann Arbor, Michigan.

The Trustees of the Hixon Fund of the California Institute of Technology announce a symposium to be held in Pasadena, September 20 through September 25 on the general topic, *Cerebral Mechanisms and Behavior*. The speakers will be **Ward Halstead**, University of Chicago Medical School; **Heinrich Klüver**, University of Chicago; **Wolfgang Köhler**, Swarthmore College; **K. S. Lashley**, Harvard University; **R. Lorente de Nó**, Rockefeller Institute for Medical Research; **Warren S. McCulloch**, University of Illinois College of Medicine; and **John von Neumann**, Institute for Advanced Study. Further information and hotel reservations may be obtained by writing Lloyd A. Jeffress, Kerckhoff Laboratories of Biology, California Institute of Technology, Pasadena 4, California.

Hermitage Press announces a plan to publish a book in the spring of 1949 to be entitled *Who's Who*

in Psychiatry. The classifications will include consulting psychologists, clinical psychologists, psychiatrists, neurologists, psychoanalysts, psychiatric social workers, and specialists in affiliated fields. A section will also be devoted to psychiatric agencies, hospitals, colleges, training schools, and allied consulting services. Persons who wish to be included in the book should write to Hermitage Press, 8 East 61 St., New York 21. Institutions are also invited to send in catalogues or other descriptive literature, together with the names and background of leading personnel.

The Carnegie Corporation made a grant of \$30,000, payable over three years, to the University of Chicago for a study of psychological and sociological problems of later maturity. Further information may be secured from Dr. Robert J. Havighurst, Committee on Human Development, University of Chicago, Chicago 37, Illinois.

The Department of Psychology of the American Teachers Association is meeting on July 25-28 at Atlantic City. For further information, write to Dr. Herman G. Canady, Department of Psychology, West Virginia State College, Institute, West Virginia.

The National Education Association and the American Book Center for War Devastated Libraries are collaborating on a program to send overseas, to teacher training institutions and associations, books and professional periodicals published during the last ten years. Particularly welcome will be complete or incomplete files of the APA journals. Ship your contributions to the American Book Center, c/o the Library of Congress, Washington 25, D. C., freight prepaid, or write the Center for further information.

A total of 5,514 World War II Veterans are studying psychology and testing in colleges and universities under the G.I. Bill. Some 2,000,000 veterans are enrolled altogether in all schools and colleges.

The New Jersey Psychological Association met on May 8th at the New Jersey College for Women in New Brunswick to hear Hortense Powdermaker, professor of cultural anthropology, Queens College, give an address on "Culture and Mental Health". The following officers were elected for the coming year: Helmer R. Myklebust, president; Samuel B. Kutash, vice-president; Frederick J. Gaudet, ex-

ecutive secretary; Louise E. Alteneder, secretary-treasurer; Margaret T. Moldaschl, Harold S. Carlson, Ralph D. Norman, Robert M. Beechley, Helen M. Richardson, members of the executive committee.

The Convention Bureau of the Boston Chamber of Commerce writes that they have exhausted the supply of single rooms reserved for the APA meeting in September. A large portion of the room allotment from Boston hotels is for double and twin-bed rooms. It would be helpful to the Housing Bureau if room applications could be made for twin and double rooms to be shared with other members. The Bureau requests that in making reservations you indicate with whom you expect to share accommodations.

The State Psychological Association of Washington held its annual meeting May 1 at the University of Washington. Newly elected officers are: Charles R. Strother, president; Allen L. Edwards, vice-president; and Max M. Levin, member-at-large of the Executive Committee.

The Philosophy of Science Association has been reorganized with Philipp Frank of Harvard as president and C. West Churchman of Wayne University, Detroit, as secretary-treasurer. Dues are \$5.00 per year. The following are members of the Governing Committee: Gustav Bergmann, State University of Iowa; Thomas A. Cowan, Wayne University; Clyde Kluckhohn, Harvard; Sebastian Littauer, Columbia University; and F. S. C. Northrup, Yale. The official journal of the association is the *Philosophy of Science*, of which C. West Churchman is acting editor.

Temporary officers of a new organization called the "New York Society of Clinical Psychologists" include: Arthur Teicher, chairman; Tatania Juzak, secretary, and Estelle Sugarman, treasurer. The first meeting on April 7 was attended by 250 people to hear a program entitled "Contributions of Psychological Tests in Diagnosis: A Case Presentation", with Florence Halpern, Leopold Bellak, and Zygmunt Piotrowski as participants.

The new telephone number of APA is Sterling 4580.

Assistants, NYU. Three assistantships in general psychology in the School of Commerce, Accounts, and Finance of New York University are available for 1948-49. Two are fulltime at \$1250 ex; one is parttime at \$750, no exemption. AB required, MA preferred. Address applications to Prof. Newman L. Hoopingarner.

Assistants, ORC, Denver. Three graduate research assistantships are offered by the Opinion Research Center and the University of Denver for MA candidates of suitable background during the four quarters beginning September 16. Stipend, \$800 for four quarters; tuition costs are about \$360. Address inquiries, including personal information, to Don Cahalan, Director, Opinion Research Center, University of Denver, Denver 10, Colorado.

Assistants, Vassar. One, or possibly two, full-time research assistantships are offered by the Vassar College's Department of Child Study, for its long-term study of the developmental problems of hard-of-hearing children. A two-year appointment at \$1800-\$2000 is available for a PhD candidate of either sex who desires an opportunity to work out a thesis problem within the general research program. He should have matriculated elsewhere. Address applications to Mrs. Miriam Forster Fiedler, Department of Child Study, Vassar College, Poughkeepsie, New York.

Research psychologists, U. S. Civil Service. The Sound Section of the Medical Research Laboratory, Submarine Base, New London, Connecticut, announces openings for psychologists interested in fulltime research on human hearing. Initial appointments are at P-1 to P-4 Civil Service ratings (\$2600-\$4,902), depending upon education and experience. An application is especially desired from someone interested in specializing in the psychophysics of pitch discrimination. Anyone interested should address J. Donald Harris or Forrest L. Dimmick of the Laboratory.

Clinical psychologist, North Carolina. The North Carolina State Board of Public Welfare, Raleigh, has an opening for a clinical psychologist with the MA and one year of experience; salary open.

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PROGRAM

AMERICAN PSYCHOLOGICAL ASSOCIATION

BOARD OF DIRECTORS, APA

9 AM, Monday

JOINT MEETING OF COMMITTEE ON PUBLICATIONS AND BOARD OF EDITORS

8 PM, Monday, Headquarters Suite

CONFERENCE OF AFFILIATED STATE ASSOCIATIONS

8:50 AM, Tuesday, Parlor B

Business Meeting

POPULAR REQUEST SYMPOSIUM: THE ROLE OF PSYCHOLOGISTS IN THE ESTABLISHMENT OF BETTER HUMAN RELATIONS

10:00 AM, Tuesday, Ballroom

Gordon W. Allport, Harvard University
Gardner Murphy, College of the City of New York
Goodwin Watson, Teachers College, Columbia University

CONFERENCE OF AFFILIATED STATE ASSOCIATIONS

1:40 PM, Tuesday, Salle Moderne

Presidential Address: John Gray Peatman: Psychologists Need Strong State Organization

MEETING OF COMMITTEE OF UNIVERSITY DEPARTMENT CHAIRMEN

2:50 PM, Tuesday, Parlor D

SELECTED INSTRUCTIONAL FILMS

7:00 PM, Tuesday, Assembly Room

Arranged by the Audio-Visual Aids Committee

- A. Clinical Psychology Films:
The Feeling of Rejection—Canadian Film Board.
G. G. Stodgill (Presented by Psychological Cinema Register)
Shades of Gray—U. S. Army (Introduced by Elias Katz)
- B. Public Information Films (Comparative Psychology)
The Jackson Hole Wildlife Park. C. R. Carpenter
(Presented by the New York Zoological Society)
- C. General Psychology Instruction
Fidelity of Report. Wilbert S. Ray. (Presented by Psychological Cinema Register)

Motivation and Reward in Learning. Neal E. Miller (Presented by Psychological Cinema Register)

POPULAR REQUEST PROGRAM: PROGRESS REPORT ON PERSONALITY STUDIES OF GRADUATE STUDENTS IN CLINICAL PSYCHOLOGY

11:10 AM, Wednesday, Ballroom

HAROLD M. HILDRETH, Chairman

E. Lowell Kelly and Donald W. Fiske, University of Michigan

POPULAR REQUEST SYMPOSIUM: SYSTEMATIC IMPLICATIONS OF HULL'S LEARNING THEORY FOR THERAPY

1:40 PM, Wednesday, Ballroom

John Dollard, Yale University
O. Hobart Mowrer, University of Illinois
J. B. Rotter, Ohio State University
Franklin J. Shaw, Purdue University

THE COMMITTEE ON TRAINING IN CLINICAL PSYCHOLOGY

2:50 PM, Wednesday, Parlor B

Informal Report and Open Discussion of Administrative Problems

MEETING OF THE COUNCIL OF REPRESENTATIVES OF THE AMERICAN PSYCHOLOGICAL ASSOCIATION, FIRST SESSION

8:00 PM, Wednesday, Parlor A

ADDRESSES BY INVITATION: PSYCHOLOGY AS VIEWED BY NON-PSYCHOLOGISTS

8:15 PM, Wednesday, Georgian Room

ERNEST R. HILGARD, President-Elect of the APA, Chairman

Psychology and Medicine. Alan Gregg, Director for the Medical Sciences, Rockefeller Foundation, New York City; Chairman, University Commission to Advise on the Future of Psychology at Harvard.

Psychology and Anthropology. Clyde Kluckhohn, Professor of Anthropology, Department of Social Relations, Harvard University.

STUDENT AFFILIATE MEETING

8:50 AM, Thursday, Parlor B

FRANCIS P. ROBINSON, Chairman

MEETING OF THE COUNCIL OF REPRESENTATIVES OF THE AMERICAN PSYCHOLOGICAL ASSOCIATION, SECOND SESSION

1:40 PM, Thursday, Parlor A

PRESIDENTIAL ADDRESS

8:15 PM, Thursday, Ballroom

CARL R. ROGERS, Chairman

Donald G. Marquis: Research Planning at the Frontiers of Science

ANNUAL REPORT TO APA MEMBERS

11:10 AM, Friday, Ballroom

DONALD G. MARQUIS, Chairman

Carroll L. Shartle: Report of the Treasurer

Helen Peak: Report from the Council of Representatives

Dael Wolfe: Report of the Executive Secretary for 1948

ORIGINAL FILMS

1:00 PM, Friday, Parlor A

Arranged by the Audio-Visual Aids Committee

Motivation and Reward in Learning, *Neal E. Miller*A Study of Twins, *H. E. Behrens*The Feeling of Hostility, *Canadian Film Board*

ADDRESSES BY INVITATION: THE RESPONSIBILITIES OF SCIENCE

8:15 PM, Friday, Georgian Room

DONALD G. MARQUIS, Chairman

Science in Being and Science as General Knowledge.

*Robert Oppenheimer, Director, Institute for Advanced Study, Princeton, New Jersey.*Social Sciences and the World Today. *Jerome N.**Frank, Judge of the U. S. Circuit Court of Appeals, New York.*

MEETING OF SECRETARIES AND NEWLY-ELECTED SECRETARIES OF THE APA DIVISIONS

10:00 AM, Saturday, Parlor D

DIVISION OF GENERAL PSYCHOLOGY

GENERAL PSYCHOLOGY

8:50 AM, Tuesday, Parlor A

DELOS D. WICKENS, Chairman

8:50 AM The relationship between mood and the production of affectively toned associates. *W. A. Bousfield, University of Connecticut.*

PROBLEM: To test the hypothesis that mood as an attitude facilitates, in proportion to its strength, the production of affectively consistent content.

POPULATION: 994 college students tested over a three-year period.

PROCEDURE: Groups of 12 to 120 students were asked individually to give ratings on a +5 to -5 basis of their mood, defined as *how well you feel*. They were also instructed to list on paper verbal associates of the following categories: 1. pleasant items; 2. unpleasant items; 3. affectively neutral items. The experimenter gave signals at successive 2-minute intervals at which each subject indicated his progress by underlining the last item he had written. The listings were continued for periods of 16 to 18 minutes.

RESULTS: Plots showing the relationship between the average cumulative totals of items and the time devoted to their production conformed to the modified exponential equation:

$$n = c(1 - e^{-mt})$$

In this function, n = total number of items, c = constant, e = base e of natural logarithms, and t = time. Analysis of the data indicated that pleasantness of mood was reliably and positively correlated with the production of pleasant associates. Ratings of mood were not significantly related, however, to the production of either unpleasant or affectively neutral items.CONCLUSIONS: The original hypothesis may be said to apply to the production of pleasantly toned items, but not to the production of unpleasantly toned items. In order to account for the results it is plausible to assume the operation of some sort of mechanism of *isolation from affect* in the case of the production of unpleasantly toned material.

9:05 AM The role of a psychologist as a citizen.

Robert H. Seashore, Northwestern University.

The constitution of the APA states that our purpose shall be "to advance psychology as a science, as a profession, and as a means for promoting human welfare." Though we have numerous divisions for the promotion of scientific and professional interests we have, as yet, relatively few organized approaches to the promotion of human welfare except at the level of individual counseling. Furthermore, although the possible applications of psychology to everyday life represent the largest single area of probable usefulness to students of psychology, we have largely neglected their education for effective participation and leadership as members of a community.

The present study is concerned with the welfare of citizens as members of a community, in which the various civic boards are ordinarily the largest single businesses in the community, providing its public utilities, education, libraries, recreation, fire and police protection and other major group needs.

Observations are based upon six years of participation in these community organizations: (1) the civic caucus for the selection and election of qualified civic board members, (2) the Board of Education, (3) the Civic

Planning Board, (4) an informal Community Council representing all civic organizations.

The principal findings are those of the practical methods developed by the citizens of a medium sized community for dealing with the typical difficulties encountered in dealing with four major aspects of community leadership: (1) the democratic selection and election of qualified civic officials, (2) the training of these officials on the job as effective board members, (3) the development of effective procedures for planning to meet civic needs, and (4) securing public support to put the civic plans into action.

A psychologist finds such activities a living laboratory for the application of his knowledge of clinical, personnel, social and business psychology as well as an opportunity to adapt scientific methods to problems of everyday living.

PRESIDENTIAL ADDRESS

10:00 AM, Tuesday, Parlor A

EDWARD C. TOLMAN: There Are Two Kinds of Learning

Business meeting following

DIVISION ON THE TEACHING OF PSYCHOLOGY

PRESIDENTIAL ADDRESS

1:40 PM, Wednesday, Parlor D

Sidney L. Pressey: The Place and Functions of Psychology in Programs of Higher Education

Business meeting following

SYMPOSIUM: PROBLEMS OF TEACHING AT THE COLLEGE LEVEL

8:50 AM, Friday, Parlor A

Organized jointly by the Division on the Teaching of Psychology and the Division of Educational Psychology

WILLIAM A. HUNT, Chairman

Claude E. Buxton: Training for college teaching

C. R. Carpenter: Teaching aids

D. B. Harris: Methods in a general college

J. E. Horrocks: "Progressive education" in college teaching

Maurice E. Troyer: Fields experience

Ronald Lippitt: Group methods

R. S. Crutchfield: Honors programs

THE TEACHING OF PSYCHOLOGY

Volunteered papers selected by the division

4:00 PM, Friday, Parlor A

ELIZABETH DUFFY, Chairman

4:00 PM Student preferences concerning teaching method and class structuring. *Esther Milner, University of Chicago.*

PROBLEM: To ascertain the type of teaching method and degree of class structuring preferred by two groups of college students given the same subject matter (a course in Social Psychology) but taught differently.

POPULATION: Two groups of college students at the sophomore level, 22 in Class I and 16 in Class II.

PROCEDURE: The informal discussion-group method of

instruction was used in both Class I and Class II, but a more directive role was taken by the instructor with Class II. The course outline and reading assignments were the same for both groups. Class I was student-structured from the first day with regard to the respective responsibilities of instructor and students, required assignments and grading, while Class II was teacher-structured in regard to these same points. Class I became as a result far more permissive in atmosphere and far less structured in terms of externally-imposed controls and requirements than was Class II. Both groups took the same three tests during the course of the quarter, Class I doing so on a voluntary basis, with similarity in the performance of both classes on all three tests.

At the end of the quarter, both groups anonymously evaluated the course in accordance with a prepared "Course Evaluation" outline. This paper is based chiefly on material derived from this student evaluation.

RESULTS AND CONCLUSIONS: The results would seem to corroborate from the student point of view those studies in the literature which indicate the greater effectiveness of group discussion to lecturing as a teaching medium. They would also seem to indicate that most of these students do not prefer a completely permissive class structuring: they feel they can gain more from course material when some type of external controls, intellectual and formal, are imposed upon them.

Some of the implications for teachers of psychology of this and related studies in the literature will be discussed.

4:15 PM The preparation of a visual aids series for the elementary psychology course. *Robert S. Harper, Harvard University, D. M. Neu, Psychological Corporation, and Ned L. Reglein, John Wiley and Sons.*

The interest shown during the last few years in the use of visual aids led to the consideration of the problems of constructing a set of visual aids to be used in the teaching of elementary psychology.

The comments of psychology instructors from both large and small institutions indicate that the cost in time, effort, and expense have made it difficult for individual departments to acquire adequate sets of visual aids. Present materials seem to contain some subject matter which the instructor can not effectively coordinate with the class discussion. This may be due to such things as the length of the material and the inclusion of extraneous information. Other factors are the difficulty of setting up bulky equipment and the problem of projection facilities.

With these facts in mind, the present program was planned to provide the instructor with supplementary demonstration material which is: (1) readily available; (2) easily utilized; and (3) of a participational nature.

A new elementary psychology textbook was selected and the chapters rated on a five-point scale as to the

adaptability of the subject matter to visualization. After the important topics in each chapter had been selected, the most effective means of presentation was agreed upon. This involved deciding between slides and motion pictures, color and black-white, and graphs, pictures and photographs.

Although much new material was included, this was not to the exclusion of already existing subject matter of the classical type. The resulting visual aids set consists of approximately 200 color and black-white slides, and a half-dozen motion pictures. (Slides and Films)

4:30 PM The program for the teaching of psychology at the United States Military Academy. *T. Ernest Newland, University of Tennessee.*

As a result of the suggestion in 1946 by the Army Chief of Staff, the teaching of a course in the psychology of military leadership was inaugurated at the United States Military Academy at West Point. This represented the first time psychology, as such, was taught, with the full-time cooperation of a professional psychologist, in any service academy. The organization, the scope of the course, and certain evolving psychological opportunities are described.

4:45 PM Teaching projective techniques in an academic setting. *Irving Arthur Fosberg, Tulane University.*
PROBLEM: The formulation of a method of teaching a two semester course in Projective Techniques in a graduate school of psychology.

THESIS: It is possible to teach a successful course in projective techniques in the graduate school of psychology. Such a course should provide for lecture time, laboratory time and for individual consultation time with the students. The lectures should be devoted (a) to the exposition of the theory and principles of projective techniques, (b) to the discussion of the historical development of each of the several testing methods, and (c) to the discussion of the validity and reliability of each projective test method studied. The laboratory time should be spent in teaching test administration, scoring and interpretation. The individual consultation time should be spent in private coaching with special emphasis on interpretation.

The students who can most profit from such a course are second year graduate students in the clinical psychology program who have had courses in tests and measurements, statistics, experimental, abnormal, and psychodynamics. Also to be discussed will be the problem of the choice of text books, case material coverage, the number of topics to be treated in class as compared to the total area of projective techniques, intensive vs. extensive treatment of projective tests, the theoretical framework which such a course needs, and the place of a course in projective techniques in the graduate clinical psychology program.

DIVISION OF THEORETICAL-EXPERIMENTAL PSYCHOLOGY AND DIVISION OF PHYSIOLOGICAL AND COMPARATIVE PSYCHOLOGY

BUSINESS MEETINGS

8:00 PM, Tuesday, Room 201, Memorial Hall, Harvard University

Division of Theoretical-Experimental Psychology

8:00 PM, Tuesday, Room 205, Memorial Hall, Harvard University

Division of Physiological and Comparative Psychology

PRESIDENTIAL ADDRESS

9:00 PM, Tuesday, Room 201, Memorial Hall, Harvard University

Clifford T. Morgan: Learning Theory from the Standpoint of Brain Functions—and Vice Versa
Smoker for the Divisions of Theoretical-Experimental and Physiological and Comparative Psychology

LEARNING I

8:50 AM, Wednesday, Georgian Room

Volunteered papers selected by the division

EDNA HEIDBREDE, Chairman

8:50 AM Some comments on perceptual organization as the theoretical basis of learning. *R. H. Waters, University of Arkansas.*

Some recent discussions of the nature of learning theory have emphasized the role of perceptual organization as the fundamental process in learning. Perceptual organization is claimed to be the primary, and reinforcement a secondary, process. The paper examines this claim. It suggests the following criticisms against the theory: (1) Perceptual organization is too narrow a concept to account for all forms of learning. (2) The character of perceptual organization is a function of the prior presence of needs or drives within the organism. (3) The establishment of perceptual organization adequate for the control of behavior requires the concept of reinforcement. (4) Though the distinction between learning and performance is theoretically valid, experiments have not satisfactorily established the fact that either can take place in the absence of some form of reinforcement. As a result of these criticisms, for which experimental evidence from the literature will be cited, it is concluded that perceptual organization is not the sufficient cause or conditions of learning.

9:05 AM Spread of the isolation effect in serial learning. *Moncrieff H. Smith, Jr., Harvard University.*

PROBLEM: To determine the effect of the isolation of a single word in the learning of a 13-unit list of adjectives.
POPULATION: Forty undergraduates from Harvard or Radcliffe.

PROCEDURE: Materials were presented on a Gerbrands Memory Drum. Lists were typed in black on white paper, and isolation was achieved by typing one item in red ink. The isolated item was always in the eighth position in the list. Each subject had one practice session, and one experimental session in which he learned a homogeneous list and a list with one isolated item. Practice effects and list differences were counterbalanced in the experimental session.

RESULTS: Lists containing an isolated item required as many trials for learning as did the homogeneous lists.

Comparison of the serial position curves for the two conditions showed that isolation increased the relative frequency of correct anticipation, not only of the isolated item, but of the items on either side of it. At all other points the serial position curve for the isolated condition fell below that for the homogeneous condition.
CONCLUSIONS: Isolation by virtue of adventitious factors, such as the color of the isolated item, seems to produce a redistribution of effort on the part of the subject, without any appreciable change in the over-all learning.

The spread of the isolation effect to adjacent items is interpreted as being in opposition to Zirkle's hypothesis of spread of isolation in the spread of effect situation. In both cases the effect is to increase frequency of response repetition, but in the present experiment the repeated responses are correct ones, whereas in the spread of effect experiment incorrect responses are repeated as a consequence of their proximity to an isolated response.

Ellen G. Stearns collaborated in this experiment. (Slides)

9:20 AM Interaction of meaningfulness and length of rest interval as factors in measured reminiscence. *Claude E. Buxton, Northwestern University.*

PROBLEM: To compare retention curves for syllables and for adjectives learned and recalled under comparable conditions.

POPULATION: Two separate groups of 18 college students each.

PROCEDURE: Sixteen-item lists of adjectives and of syllables were constructed for serial anticipation learning. Four practice sessions, then six experimental, with a constant order of lists, were used. During the experimental sessions, for each group (type of material), there

was a control (no-rest) recall interval, and experimental rest intervals of 30 sec., 2, 5, 10 and 20 min. Random orders of conditions were used. The pre-rest criterion was always 16/16. During rest *S* scanned light magazines, being instructed not to rehearse. All lists were presented on a rear-projection screen with a cam-driven SVE projector. The exposure rate was 2 secs., with 6 secs., between trials.

RESULTS: As length of rest interval increased, recall of the syllables first increased reliably, then decreased reliably at 20 min. By contrast, recall of adjectives first improved unreliably as length of rest interval increased, and then decreased unreliably by 20 min. (These statements were supported by analysis of variance for the two groups separately.) Exact comparisons of trends in the two experiments can not be made because of heterogeneity of variance (Bartlett's test), but the trend of means is clear qualitatively.

CONCLUSIONS: As for Ward, reminiscence occurs reliably in syllables, over short retention intervals; forgetting soon ensues. As for Melton and Stone, reminiscence does not occur reliably in adjectives, but the present study shows no reliable evidence of forgetting either. The difference between the two retention curves lends support to an explanation of reminiscence based on intra-serial generalization.

9:35 AM Learning of probable occurrences. *James S. Calvin, University of Kentucky.*

PROBLEM: How does learning vary with differing degrees of intermittent reinforcement?

POPULATION: 300 students in introductory psychology classes.

PROCEDURE: Five different combinations of lights were exposed, one at a time, 24 times each during a learning series of 120 trials. One of these combinations (termed S_1) was followed intermittently by a buzzer. The other four light combinations (termed S_x) were also followed intermittently by a buzzer, but in a lesser proportion of trials than for S_1 . Examples of reinforcement patterns employed were: 100% (for S_1) vs 0% (for S_x); 87½% vs 12½%; 75% vs 12½%; 50% vs 25%; etc. The subject's tasks were (1) to predict, when a light combination appeared, whether the buzzer would follow, and (2) to indicate his certainty regarding his prediction on a 1-to-5 scale.

RESULTS: Results were analyzed in order to determine the effects of varying reinforcement patterns on learning to respond to S_1 , learning to respond to S_x , learning to respond differently to S_1 and S_x . Results indicated that certainty measures of learning closely parallel frequency measures. Most effective learning was obtained when proportion of reinforcement was high for S_1 , low for S_x . Progressive decreases in learning were obtained with decrease in proportion of reinforcement for S_1 and with

decreasing differences in reinforcement levels (between S_1 and S_x). Learning to respond to S_1 depended, not only on level of reinforcement for S_1 , but also on level of reinforcement for S_x ; this latter relationship does not appear simple, however.

CONCLUSIONS: The findings indicate that in an expectation learning situation involving differing probabilities of occurrence, learning to respond to S_1 is influenced by a number of factors, including percentage of reinforcement S_1 has received, percentage of reinforcement S_x has received, and difference between these percentages.

BRAIN FUNCTIONS

10:00 AM, Wednesday, Georgian Room

Volunteered papers selected by the division

DONALD B. LINDSLEY, Chairman

10:00 AM Effects of electroshock convulsions on learning and retention as functions of the difficulty of the task. *Roger W. Russell, Western State Psychiatric Institute and Clinic and Robert A. Patton, University of Pittsburgh.*

PROCEDURE: A series of experiments in this laboratory (Braun, Russell and Patton) has indicated that significant decrements in both learning and retention follow a series of controlled electroshock convulsions when the task involved is a five-choice-point maze. In the present study 120 subjects were exposed to exactly the same experimental conditions as in the previous research series except that their behavior in learning and relearning two tasks of lesser difficulty—a straightaway and a single choice-point-maze—was studied. The subjects were divided into eight equivalent groups. Group 1 received 25 daily electroshock convulsions and 24 hours following the last convulsion began practice on the straightaway. Time records were kept for each of 25 trials. Twenty-four hours following the last trial, practice on the single choice-point maze began. Group 2 served as controls. Group 3 was treated exactly the same as Group 1 with the exception that a 30-day rest period intervened between the last convulsion and the start of practice on the straightaway. Group 4 served as its controls. Group 5 received preliminary practice on the straightaway and learned the maze prior to receiving its series of convulsions. Twenty-four hours after the last convulsion relearning trials began. Group 6 furnished controls for this phase of the research. Group 7 received the same treatment as Group 5 except that a 30-day rest period followed the last convulsions before relearning started. Group 8 served as its control.

RESULTS: No significant differences were found between any of the control and experimental groups in their behavior on the straightaway or in the single-choice point maze.

CONCLUSIONS: The results indicate that the effects of electroshock convulsions on learning and retention are functions of the difficulty of the task involved.

10:15 AM Deficits in maze learning by rats tested from two and one-half to three months after a course of electroconvulsive shocks. *Calvin P. Stone, Stanford University.*

PROBLEM: To determine whether there is a long-time deficit in the maze-learning ability of rats given electroconvulsive shocks in infancy.

POPULATION: Fifty-six white rats: 29 experimentals and 27 littermate controls.

PROCEDURE: In the age period of 20 to 30 days, half of the members of each litter were given daily electroconvulsions. From birth until the end of the experiment, all animals were handled nearly every day to minimize the likelihood of fear responses continuing after the convulsion series. From 75 to 90 days after the last shock, all animals were trained on the Stone multiple-T maze, two trials daily for 20 days. Rats not satisfying the criterion of 3 successive perfect trials were trained for 6 more days, one trial per day.

RESULTS: Comparing the total number of errors made on 40 trials, the mean of the experimental group was 139.8, and of the control group, 111.3. The probability of such a difference arising by chance is .05.

The corresponding comparison for trials 31 to 40 gives means of 14.6 for the experimentals and 7.2 for the controls. This difference is reliable at the .02 level.

The percentage of animals satisfying the criterion of mastery was greater in the control group. Sixty-seven per cent of the controls met the criterion, as against 31 per cent of the experimentals. This difference is reliable at the .01 level.

Despite these differences, the distributions overlapped almost completely.

The data are not yet completely analyzed.

CONCLUSIONS: A series of electroconvulsions given rats in infancy produced a deficit in maze learning which could be demonstrated more than 75 days after the last convulsion. It is believed likely that this reflects a permanent reduction in maze learning ability.

This experiment was carried on in collaboration with Mr. Paul B. Porter.

10:30 AM Conditioning involving the two body sides after hemidecortication. *W. N. Kellogg, Indiana University.*

The present investigation was designed to ascertain the effect of removal of one-half of the neocortex upon the buzz-shock flexion conditioning of both sides of the body. Six laboratory dogs with complete or nearly complete ablation of the cortex of one cerebral hemisphere served as subjects. The animals were supported during

training by means of leg-slings and hammocks, so that they were free to lift any or all of the feet.

The conditioned response training was both bilateral and unilateral. In the bilateral procedure the conditioned buzz was followed by a reinforcing electric shock delivered simultaneously to each of the hind feet. In unilateral conditioning, the shocks were delivered to the right hind foot for a series of trials, then to the left hind foot, again to the right hind foot, and so on. The ease of transfer of the CR from one side to the other was thus observed.

Results show no fundamental difference in the rate or efficiency of learning on the two body sides. Some of the subjects, it is true, learned faster with the normal or unaffected limbs; but others gave superior results with the incapacitated members. The variations are adequately explained by the principle of individual difference, without reference to the cortical insult at all. The only consistent effect of the brain damage seems to have been a slightly longer latency and a slightly greater amplitude for the CRs occurring on the affected body side.

Although hemidecortication produces profound effects in the reflexes, in posture, in locomotion, and in vision in the dog, we can find no evidence that it affects the speed or efficiency of learning of the flexion CR. (Slides)

10:45 AM The effect of bilateral removal of the prefrontal granular cortex on delayed response performance and emotionality in chimpanzee. *Robert A. Blum, Yerkes Laboratory of Primate Biology.*

Removal of the prefrontal areas in monkeys results in loss of the ability to perform delayed response under the usual conditions. Jacobsen found a similar effect in two chimpanzees, as well as loss of emotional responsiveness to frustrating situations. The present experiment was undertaken in order that analysis of the animals' performance on an extensive series of tests might serve better to define the nature of the function which is disturbed. Two chimpanzees, one a preadolescent male and the other an adult castrate female, underwent prefrontal lobectomies. The experiment yielded the unexpected result that both animals were able to achieve a high level of performance on spatial delayed response up to the longest intervals tested (4 minutes for one of the subjects, 1 minute for the other). Prior to operation the young male had been a subject in an experiment on simple matching and generalized matching from sample. His postoperative performance was similar to that of an unoperated control, both showing considerable retention. The prefrontal chimpanzees show marked emotional reactivity to disturbing or frustrating situations without noticeable departure from their preoperative level. These animals are still being tested, so no precise description of the lesion is possible. However, estimations at the time of operation indicate that all the tissue anterior

to a plane 4 to 5 cm. posterior to the frontal pole on the dorsal surface and 1 to 2 cm. posterior to the pole on the ventral surface was removed. (We believe that the posterior margin of this lesion invades the region usually described as areas 8 and 6 of Brodman.) This experiment was done in collaboration with J. S. Blum and Dr. Karl Pribram.

LEARNING II

1:40 PM, Wednesday, Salle Moderne

Volunteered papers selected by the division

B. F. SKINNER, Chairman

1:40 PM An experimental test of the non-selective principle of association of drive stimuli. *Howard H. Kendler, University of Colorado.*

PROBLEM: Rats, trained under simultaneous hunger and thirst drives in a T-maze with water in one goal box and food in the other, were found to respond appropriately during test trials when motivated either by hunger or thirst. One explanation assumed that the subjects developed distinctive anticipatory eating and drinking responses prior to their experimental experiences. This study provides a test of this hypothesis by subjecting animals raised on a liquid diet (thereby precluding the development of distinctive anticipatory eating and drinking responses) to essentially the same experimental situation.

POPULATION AND PROCEDURE: Because seven white rats raised on a milk-iron-copper liquid diet refused water, it was necessary to modify the maze situation so that a milk-water solution appeared in one goal box, while dog checkers appeared in the other. During the training series both the experimental (13 rats raised on a liquid diet) and the control (12 animals raised 'normally') groups had equal experiences with the contents of both goal boxes. The test trials for both groups consisted of one daily trial following deprivation of either food or the milk-water solution.

RESULTS: During the test series the performance of the experimental and control groups were essentially similar. The percent of appropriate responses in both groups could be attributed to chance. However, two subjects in each group gave definite evidence of having learned to respond appropriately.

CONCLUSIONS: Due to the similarity of the performance of the control and experimental groups, and the ability of some experimental animals to learn the problem, the data are interpreted to be inconsistent with a non-selective principle. The results of this and other experiments are discussed in terms of a selective principle of association which asserts that only those drive stimuli which are themselves reduced become connected to rewarded responses.

1:55 PM Response latency as a function of the amount of reinforcement. *David Zeaman, Brown University.*
PROBLEM: To determine: (1) The functional relationships between the amount in grams of a positive reinforcement and one or more parameters of empirical acquisition and extinction equations containing latency of response as dependent variable; (2) the effects of a change in amount of reinforcement on latencies late in the stages of acquisition.

POPULATION: 101 male albino rats.

PROCEDURE: 7 groups of 8 or more animals were given well-spaced training (1 trial-a-day) on a simple elevated runway (Graham-Gagné type) with amounts of food reinforcement weighing .05, .20, .40, .60, .80, 1.60 & 2.40 grams. When response latencies had reached stable asymptotes (20 trials), the 4 groups receiving .20, .40, .80, & 1.60 grams were extinguished with massed trials.

The groups receiving the largest and smallest amounts had their rewards interchanged and were then given 8 additional daily trials before extinction.

Following acquisition, the 40 animals of the .60 gram group were divided into 5 equated subgroups and given 8 more daily trials with the following amounts: .05, .20, .60, 1.20, & 2.40 grams. These animals were also subjected to massed extinction trials.

RESULTS AND CONCLUSIONS: (1) The family of comparable learning curves generated by the varying amounts of reinforcement differed significantly with respect to equation constants representing the final limit or asymptote of latencies. The parameter representing the rate of approach to these limits remained unchanged. (2) The plot of log latency as a function of log grams of food yielded a curve negative in slope and slightly positively accelerated over the range tested. (3) The greater resistance to extinction of the larger amount groups was indicated by the systematic variation of the extinction equation constants controlling rate-of-approach to the final level. (4) Changes in amount of reinforcement late in acquisition shifted latency asymptotes in the expected direction but to a greater than expected degree. (5) Certain theoretical implications and relations are considered. (Slides)

2:10 PM Preliminary report on a device for the further quantification of operant conditioning. *F. C. Frick and George A. Miller, Harvard University.*

In recent years a large number of experiments have been reported which have involved the lever-pressing response of the rat. On the basis of these experiments a number of general principles of behavior have been derived. At present these principles suffer from a lack of precision and it is apparent that the behavior of the rat in the lever-pressing situation needs further quantification and more detailed analysis.

This work has, for the most part, implicitly assumed

that a fair account of the entire behavioral sequence involved can be obtained by the examination of a single member of the sequence. This assumption seems particularly doubtful under conditions where the response to the lever is not always reinforced. Under these conditions the rate of response to the lever would appear to be partially determined by the presence of discriminative cues and secondary reinforcement, the importance of which have been amply demonstrated by recent studies of Spence and others.

An apparatus has been designed to permit the simultaneous recording of two members of the response chain involved in the lever pressing situation. The lever and food tray have been spatially separated and the latter has been hooked up to a capacity-relay so that a record may be obtained not only of the lever-pressing response but of a later response in the chain-approach to the food tray. Discriminative cues connected with the action of an automatic feeding device can be controlled through adequate masking noises and secondary reinforcement in the form of tones correlated with lever pressing have been put under experimental control.

Preliminary results obtained with this apparatus will be presented. (Slides)

2:25 PM The acquisition of a response to food under conditions of food satiation. *Edward L. Walker, University of Michigan.* (Abstract exceeded 300-word limit)¹

SYMPOSIUM: SCALES OF MEASUREMENT

2:50 PM, Wednesday, Salle Moderne

Organized by the Division of Theoretical-Experimental Psychology, the Division of Physiological and Comparative Psychology, and the Psychometric Society.

SAMUEL A. STOFFER, Chairman

Speakers: S. Smith Stevens, Clyde H. Coombs, Charles I. Mosier

Discussants: Harold Gulliksen, Quinn McNemar, C. F. Mosteller

MOTIVATION AND BEHAVIOR

8:50 AM, Thursday, Georgian Room

Volunteered papers selected by the division

J. G. BEEBE-CENTER, Chairman

8:50 AM The homeostatic systems associated with the primary drives, and their theoretical representation by means of the system-functions (transfer functions)

of servo-theory. *George L. Kreezer, Washington University, St. Louis.*

In attempts to understand motivated behavior in general, psychologists have found it of value to regard the primary or physiological drives as a point of departure. One approach to an understanding of these primary drives is to regard them as dependent on the homeostatic or physiological regulatory systems of the organism (cf. Cannon, Adolph, Richter, etc.). The present paper describes methods for obtaining a concise theoretical representation of such homeostatic systems in terms of the transfer-function concepts of servo-theory.

In previous reports by the author, the possibility was pointed out of deriving transfer-functions to represent physiological systems on the basis of overall response curves of the total system to special test disturbances, even though detailed data on the organization and components of the system was not available. In the present paper, we are concerned with methods for applying this approach to homeostatic systems specifically, on the basis of the analogy of such systems to the closed-cycle systems of servo-theory.

Two methods will be described for obtaining the necessary overall response curves and the associated transfer functions, based on the temporal form of the deviations of the "regulated variable" from the "set-point", following disturbance of the system. These methods will be illustrated by the treatment of data available on blood-sugar tolerance curves on different animals.

(The work described was carried out during the author's tenure as Guggenheim Fellow at the Institute for Advanced Study at Princeton, N. J., and with the aid of a grant from the Penrose Fund of the American Philosophical Society). (Slides)

9:05 AM Studies on the early development of social behavior in puppies. *J. P. Scott, Roscoe B. Jackson Memorial Laboratory.*

PROBLEM: To develop a normal time schedule for behavioral development in dogs, with particular attention to the social relationships involved.

POPULATION: 14 litters from 7 pure breeds and including 57 individuals have been studied intensively up to 16 weeks of age and less intensively thereafter.

PROCEDURE: An attempt was made to develop a routine which would provide an optimum standard environment for all dogs and which would be somewhat comparable to care and training given to human children in home and school. The procedure included daily short-period observations, weekly physical examinations, a standard system of feeding and veterinary care, a general activity test, three performance tests, a test of relationships with human beings, and a dominance test of relationships with other dogs.

RESULTS: Social and physical development of puppies

¹ All abstracts which exceeded the three-hundred word limit are omitted from the program.

may be naturally divided into five periods whose approximate length and characteristic activities are listed.

1. Birth until eyes open: neonatal. 0-2 weeks, nursing.

2. Opening eyes until leaving nest. 2-4 weeks. Teeth erupt, walking, special sense organs used. Solid food eaten, fighting play begins.

3. Leaving nest until weaning. 4-10 weeks, physical skill and activity increased, playful fighting, great changes in relationships with human beings.

4. Weaning until sexual maturity. 10 weeks to 8-10 months. Group attacks on one individual in play fights, submission to older dogs, hunting.

5. Maturity.

CONCLUSIONS: The third period of life appears most sensitive with regard to determining the nature of social relationships. Before or after this period, accidents or social training seem to have smaller effects. Individuals show some variation in patterns of development.

The data were collected by Miss Mary-Vesta Marston.

9:20 AM The development of dominance-submissive hierarchy among puppies with attempts to change the position of the submissive animal. *W. T. James, University of Georgia.*

Previous studies have shown that a dominance-submissive hierarchy develops in most litters of dogs. The present study was undertaken to determine how early this difference appears. During the experiment an attempt was made to change the position of the submissive animal.

A litter of four Dalmatian-setter F1 hybrids, one female and three males, were observed in a competitive feeding situation daily from 85 days of age until 5 months of age, and thereafter at intervals until maturity.

A dominance-submissive order was present from the beginning of the experiment. Three dogs, the female and two males, were about equal in dominance, and these dominated the third male, which was extremely submissive. This order remained unchanged until the animals were approximately 115 days of age, when the female became the dominant animal.

The aggressive nature of the submissive animal could be increased temporarily by a dosage of .55 cc of alcohol per kilo given from 8 to 10 minutes before the experiment. This would seem to indicate that psychological factors as well as constitutional factors play a part in the behavior.

Since these dogs were F1 hybrids from pure stock parents we could not expect any great difference in size. From the beginning of the experiment, however, the female was the greatest in size, weighing 7 kilos, with the two dominant males next, weighing 5 and 6 kilos, while the submissive male was the smallest, weighing 3.7 kilos. After the fifth month special care was taken to give the

submissive animal plenty of food. The dog was fed alone as well as with the group. Following this procedure the dog gained weight and soon equaled that of the two dominant males. The submissive nature was still present, however, and the animal was unable to get enough food in the competitive situation.

SECONDARY REINFORCEMENT

10:00 AM, Thursday, Georgian Room

Volunteered papers selected by the division

LYLE LANIER, Chairman

10:00 AM The extinction of a token reward behavior sequence. *Richard L. Solomon and William W. Lambert, Harvard University.*

PROBLEM: In the token reward situation, the amount of work which the subject will do after the removal of primary reward is considered indicative of the strength of the token reward behavior sequence. But different ways of administering the extinction conditions might yield different apparent strengths.

POPULATION: Bright children ($N = 37$), 3-4 years old, both sexes.

PROCEDURE: The experimental group was trained to obtain candy by working at a work machine to obtain poker chips which could then be put into a vending machine which produced candy. A control group received candy directly from the work machine. For the experimental group, extinction was carried out in four ways: (1) the work machine gave its usual noises, but no token; (2) the work machine was shut off; (3) the vending machine gave its usual noises but no candy; and (4) the vending machine was shut off. For the control group, extinction was carried out in two ways: (1) the work machine gave sounds, but no candy and (2) work machine shut off.

RESULTS: The highly reliable results are not predicted by either secondary reinforcement or expectancy theories. For example, extinction took place much more rapidly when the characteristic sounds of the work machine were present in the control group situation, while the reverse of this held in the experimental group situation. Also, the nearer the end of the sequence of behavior, the more detrimental was the introduction of extinction procedure. Again, the click of the machine in the non-token situation was more effective in maintaining behavior than was the poker chip of the token reward situation.

CONCLUSIONS: The token reward situation is much more complicated at the human level than has been indicated by the work of Wolfe or Mitrano. The type of procedure used in extinction is extremely important. (Slides).

10:15 AM A study of motivating conditions necessary for secondary reinforcement. *William K. Estes, Indiana University.*

PROBLEM: A previous investigation by the writer yielded evidence that an originally neutral stimulus which has been associated with the presentation of water to thirsty animals will subsequently exert a reinforcing effect upon responses elicited when the animals are hungry but not thirsty. The present experiment was designed to verify that finding and to determine whether the presence of a strong hunger drive on the test period is a necessary condition for the transfer of secondary reinforcing properties.

POPULATION: Twelve albino rats 110 days old.

PROCEDURE: A Skinner-type conditioning apparatus was used. First, all animals were pretested for rate of unconditioned bar-pressing under 24 hour water deprivation; all responses were recorded during a 30 minute period.

Next, the two experimental groups of four rats were deprived of water for 24 hours, then subjected to 55 presentations of small quantities of water accompanied by a characteristic auditory stimulus. Four control rats did not receive this training.

On the test period, motivating conditions were as follows. Control group and High-Drive group: 24 hours food deprivation, satiated on water. Low-Drive group: 6 hours food deprivation, satiated on water.

During the test session, bar-pressing responses produced the auditory stimulus previously associated with water reinforcement, but no other reinforcement.

RESULTS: Rate of responding increased significantly over the pretest rate for the high-drive group, but decreased for the other groups.

CONCLUSIONS: A secondary reinforcer is effective in the presence of some strong drive, but not necessarily the one under which the reinforcer was itself conditioned. (Slides).

10:30 AM The effect of partial reinforcement on the strength of secondary reinforcing cues. *David Ehrenfreund, State College of Washington.* (Abstract exceeded 300-word limit).

10:45 AM Maze learning in the absence of primary reinforcement: a study of the effective duration of secondary reinforcing properties. *Irving J. Saltzman, Johns Hopkins University.*

PROBLEM: Rats can learn a maze when the only reinforcement is secondary reinforcement previously established on a runway. The reinforcing power is rapidly lost, however. The problem here was to determine whether secondary reinforcement could be maintained by interpolating runway trials between the maze learning trials.

POPULATION: Two groups of 12 naive, hooded, female rats, 85 to 130 days old.

PROCEDURE: 1. *Establishment of secondary reinforcement.* Both groups of rats, previously maintained on a feeding schedule, were given five runs to food per day for five

days in a small grey runway. The goal box was white for half the animals in each group, and black for the other half. The animals had to jump up into the black goal box or down into the white goal box. 2. *Maze learning.* On the day after the last day of runway trials, 15 runs in a single-choice, non-correction, grey U-maze were given each of the rats. That color box in which a rat received food on the runway was placed on the nonpreferred side of the maze, and the other box, on the preferred side. The boxes were not visible from the choice point. None of the rats ever received food in the maze situation. The experimental group received a runway trial to food after each maze trial; the control group received only the 15 maze trials.

RESULTS: The experimental group made significantly more correct choices than the control group. The control animals show an initial rise and then a rapid drop in the number of correct choices. The experimental animals do not show the rapid drop.

CONCLUSIONS: Secondary reinforcement can be maintained by interpolating runway trials between the maze learning trials. The effect of the additional trials is to eliminate the rapid loss of the reinforcing properties. (Slides)

LEARNING III

11:10 AM, Thursday, Georgian Room

Volunteered papers selected by the division

ARTHUR W. MELTON, Chairman

11:10 AM The influence of training in "attention" on discrimination learning. *Douglas H. Lawrence, Yale University.*

PROBLEM: This experiment investigated the problem of whether or not previous training in "attending" to a cue influenced the nature of the association established between that cue and an instrumental response in a new learning situation.

POPULATION: Forty, male albino rats.

PROCEDURE: The animals were first trained to respond to one cue and ignore another in a successive discrimination. In this, black and white versus chain curtains (through which the animal had to run) and no-curtains were two cues that were combined by random pairing on successive trials. Half the animals learned to choose the right compartment on trials when the apparatus was all black and the left one when it was all white, irrespective of whether the curtains were present or absent. The other half of the animals learned to respond to the other cue. All animals were then trained on a simultaneous discrimination in which both cues were relevant, i.e. it could be learned on the basis of either one or both. They were then tested by (a) opposing the two cues, (b) removing one and retraining the animals, and (c) by removing

one cue, reversing the positive and negative aspects of the remaining cue, and then retraining the animals on this reversed discrimination.

RESULTS: It was found that the animals tended to choose the cue that they had been taught to attend to when the two cues were opposed; that retention and relearning were better on this cue; and that the animals could reverse the discrimination faster on this cue than on the one they had been taught to ignore.

CONCLUSIONS: The "natural dominance" of a cue can be modified by previous experience with that cue, and this in turn determines in part the influence that cue has on learning and performance in a discrimination situation.

11:25 AM Expectancy in the extinction of a conditioned operant response. *John P. Seward, University of California at Los Angeles.*

PROBLEM: Hull's inhibition theory of extinction implies that a learned response must be repeated without reinforcement to be extinguished. Tolman's sign-learning theory, that extinction occurs when reward is no longer expected, requires only that the *consequences* of a response be associated with non-reward, not that the response itself be made. An experiment was designed to test these predictions.

POPULATION: 35 albino rats, 4 to 5 months old, were divided into an experimental group of 18 and a control group of 17, with males and females equally apportioned.

PROCEDURE: The response was to travel a 3-foot elevated path from a starting platform (S) to a goal platform (G). Training for all rats consisted of 10 trials to food. The following day group E rats were confined on G without food five 2-minute periods, while group C rats were similarly confined on a third platform (T). Next day all rats were extinguished to a criterion of 2 successive refusals to leave S in 3 minutes. For group E extinction trials were preceded and separated by 2 minutes on G; for group C they were preceded by 2 minutes on T and separated by 20 seconds on G and 100 seconds on T.

Mr. Nissim Levy collected the data.

RESULTS: The mean number of trials to extinction was: for group E, 5.1; for group C, 10.3. The difference was significant at the .01 level.

CONCLUSIONS: Since the two groups were treated alike except that group E spent more time on G without food, the results suggest that expectancy was one factor in extinction.

11:25 AM "Place" versus "response" learning in a human walking maze. *Stanford C. Ericksen, Vanderbilt University.*

PROBLEM: To test the applicability to human maze performance of principles set forth by Hull and Tolman to explain animal learning.

PROCEDURE: Twenty male college students were in each

of the Place and Response groups. The apparatus consisted of four treadles placed in the corners of a small room 6 x 7 feet. One pair of diagonally opposite treadles served as the goals—A and B, and the other pair the starting points, S₁ and S₂. The task for either group was to learn 12 correct choices between A and B, starting from S₁ or S₂. There were eight different predetermined arrangements of starting points. The correct sequence to be mastered by the Place group was: ABBAABABBABA. For the Response group, the correct series was in terms of right turns (R) and left turns (L) from either S₁ or S₂: RLLRRLRLRLR. With this arrangement the Place learners had to ignore the right-, left-turning cues while the Response group could learn only if they disregarded Place cues. The criterion was two successive errorless trials.

RESULTS: The data reveal no significant differences between the Place and Response groups in: (1) mean trials to learn, (2) mean errors to learn, (3) intra-group variability, and (4) rate of learning. Split-half reliabilities for both mazes ranged from .77 to .98 (using different S₁, S₂ sequences).

CONCLUSION: Place and Response theories (growing out of white rat studies) fail to provide a unique explanation for the results of this study which provided the same operational definitions of Place and Response learning as are used in the rat experiments. A preferred explanation is offered in terms of the functional use of ideational direction and control in the maze situation.

This experiment was performed in collaboration with Charles R. Porter.

11:40 AM The effect of differential training to single stimuli upon the acquisition of a size discrimination habit. *G. Robert Grice, University of Illinois.*

PROBLEM: An experiment has been reported by Lashley and Wade in which one group of rats made 200 jumps to a small circle in the jumping stand, and a second group made 200 jumps to a large one. Both groups then were trained to select the larger circle when the two were presented together. The group having made the responses to the small circle learned the problem with fewer errors than the group which had responded to the large. These results were interpreted by the authors as disproving the principle of stimulus generalization. It was desired to repeat this experiment with a larger number of subjects and in a situation not involving punishment and other complications of the jumping stand technique.

POPULATION: The subjects were 20 albino rats of Wistar strain.

PROCEDURE: In a specially designed visual discrimination apparatus, ten rats made 200 rewarded responses to a single white circle eight centimeters in diameter. Another group of ten rats made 200 rewarded responses to a five centimeter white circle. Both groups were then

trained in a discrimination problem in which the eight centimeter circle was positive and the five centimeter circle was negative.

RESULTS: The group with the preliminary training to the eight centimeter circle learned the discrimination problem at a significantly faster rate than the group with preliminary training to the five centimeter circle. This was opposed to the result of Lashley and Wade.

CONCLUSIONS: The data are interpreted as being in accord with the principle of generalization, and as confirming evidence for the continuity theory as opposed to the non-continuity interpretation of discrimination learning. The result further supports the view that size discrimination learning consists of the establishment of reaction tendencies to the specific stimuli rather than to a relationship between them. (Slides)

AUDITION

1:40 PM, Thursday, Georgian Room

Volunteered papers selected by the division

S. S. STEVENS, Chairman

1:40 PM Function of the auditory cortex: the localization of sound in space. *William D. Neff, University of Chicago and Mariano Yela, University of Madrid.*

PROBLEM: To investigate the role of the auditory cortex in the learning of a discriminatory response based upon the localization of sound in space.

SUBJECTS: Adult cats.

PROCEDURE: Step 1. Experimental animals were trained to choose one of three food boxes, the cue for the correct choice being a buzzer sounded in the appropriate position. Maximum times for correct delayed responses were also measured.

Step 2. The auditory cortex was ablated bilaterally in either one or two stages.

Step 3. Retention of the discriminatory response and delayed response established in Step 1 was measured. Relayed response was given if necessary. Control tests involving visual discriminations were made.

RESULTS: 1. Unilateral ablation of the auditory cortex does not interfere with the retention of a learned response based upon spatial localization of sound.

2. Maximum times for correct delayed responses are decreased by unilateral ablation of the auditory cortex.

3. Bilateral ablation of the auditory cortex results in loss of the ability to make a learned response based upon spatial localization of sound.

The above results will be discussed in relation to earlier studies of the function of the auditory cortex.

1:55 PM The effects of interaural phase differences on the perception of pure tones. *W. R. Garner, Johns Hopkins University.*

PROBLEM: Most experiments on interaural phase differences have been aimed at understanding our ability to localize a sound source. These experiments were designed to determine what effects, apparent localization or otherwise, an interaural phase difference can produce on the perception of pure tones.

POPULATION: 54 Os of both sexes, ranged in age from 7 to 45 years.

PROCEDURE: The O, unaware of the nature of the experiment, was asked to listen to two tones heard in alternation, and to report whether the tones were the same or different, and later to state what the nature of the difference was. The alternating tones, heard in both ears, did not change except that the phase difference between the two ears was reversed, so that the ear which had been leading now lagged in phase, and vice versa. Judgments were obtained at 0, 30, 60, 90, 120, 150, and 180° phase difference, at two intensities, and at frequencies from 200 to 2000 cps.

RESULTS AND CONCLUSIONS: (1) All Os reported differences of some kind of apparent localization. 80% reported differences in pitch, an effect apparently related to diplacusis. 25% reported differences in loudness. Miscellaneous kinds of differences were also reported. (2) Fewer differences are reported as frequency is increased, with 50% still reporting some differences at 1200 cps. (3) Slightly more reports of differences were obtained at the higher intensity level. (4) The maximum number of reports, for any frequency, is received with phase differences of about 90°, with fewer reports as the phase difference approaches 0 or 180°. Although there is some shift in maximum sensitivity toward 180° with increasing frequency, this shift is too small to assume that the ear is responding to simple time differences.

ACKNOWLEDGMENT: The author is indebted to Mr. Michael Wertheimer for assistance in obtaining the experimental data. This research was conducted under contract with Special Devices Center.

2:10 PM The sharpness of tuning of the auditory mechanism. *J. C. R. Licklider, Harvard University.*

PROBLEM: The aim of the paper is to compare the inferences drawn from psychophysical experiments with the more direct results of physiological experiments on the question: how sharply selective is the auditory mechanism of frequency analysis? It has been argued, to be specific, that the function relating the spread of activity along the basilar membrane to the frequency of the stimulating tone can be derived from data on frequency discrimination and from data on masking. Further inferences about the distribution of activity in the cochlea have been drawn from experiments on beats, trills, pitch scales, auditory fatigue, hearing loss, and speech intelligibility. It is instructive to bring together these contributions to our 'conceptual neurophysiology' and to

examine them in the light of the findings of Békésy, who has measured the sharpness of tuning of various points along the basilar membrane by watching their vibrations through a microscope.

RESULTS: Most of the psychophysical evidence suggests that, if we start with high frequencies and work down the scale, the frequency selectivity of the cochlear mechanism increases (grows sharper) until we reach 1000 cps, then remains approximately constant down to 100 cps. Békésy's observations indicate, however, that the selectivity continues to improve with decreasing frequency all the way down to 100 cps. Galambos' data on the selectivity of single nerve fibers tend to corroborate Békésy's finding, as do the results of experiments on frequency localization in the cerebral cortex.

CONCLUSIONS: The discrepancy between the inferences from psychophysical data and the indications of physiological data suggest that the former are open to reinterpretation. A reinterpretation is proposed.

2:25 PM Effects of auditory fatigue on high-frequency pitch judgments. *W. R. Thurlow, University of Virginia.*

PROBLEM: To determine the effect of auditory fatigue upon subjective octave pitch and the difference limen, using high frequencies.

POPULATION: Judgments for each of 5 subjects.

PROCEDURE: *a.* Three experiments were carried out with each of 2 subjects on the effects of continued high intensity stimulation in one ear on the pitch and pitch difference limen in the other ear. Pitch was measured by subjective octave pitch above a 2000 cycle standard; difference limen was measured at 10,000 cycles (method of constant stimuli).

b. Experiments were conducted with 5 subjects on the effects of continued high intensity monaural stimulation (4000 cycles) on the octave pitch function, the difference limen at 10,500 cycles, and threshold of hearing at 4,000 and 10,500 cycles. Measurements were made for both ears.

RESULTS: When pitch shifted, it shifted in a downward direction. Shifts were negligible at the octave above the 2000 cycle standard, compared to shifts at the highest frequencies. The pitch shifts obtained were of the same order of magnitude for the two ears. However, the pitch shift in the ear opposite to the one stimulated was not necessarily accompanied by corresponding hearing threshold shifts. When difference limens changed, they increased, but shifts in pitch were not always accompanied by shifts in difference limen. Further experiments on day-to-day variation confirmed the lack of high relation between pitch and pitch difference limen.

CONCLUSIONS: Shifts of pitch at high frequencies following continued monaural stimulation are in a downward direction, of comparable magnitude in each ear; accom-

panying increases may occur in both ears in the difference limen. Octave-pitch and difference limen size at these frequencies are not highly related.

These measurements were gathered in cooperation with Mr. O. A. Trice. (Slides)

2:40 PM Loudness of speech in quiet and in noise. *Irwin Pollack, Harvard University.*

PROBLEMS: (1) To construct a scale of loudness for speech, and (2) to determine the effect of a background noise mask on the loudness of speech.

POPULATION: Two to twenty-four experienced listeners in various sections of the experimental program.

PROCEDURE: (1) For the construction of a scale of loudness for speech, the following procedures were employed: (a) monaural-binaural equal-loudness matches, (b) 'half-loudness' and 'twice-loudness' determinations, and (c) loudness-level measurements. (2) For the determination of the effect of a background masking noise on the loudness of speech, listeners matched in loudness the speech component of a speech signal immersed in noise to normal (noise-free) speech.

RESULTS AND CONCLUSIONS: (1) A loudness scale may be constructed for speech directly (without extrapolation from pure-tone data) on the basis of a weighted average of the results of procedures (a), (b), and (c). (2) On the basis of this loudness scale for speech (with the assumption that a masking noise effectively subtracts a constant number of loudness units), it is possible to predict fairly well the effect of a flat background noise on the loudness of speech.

SYMPOSIUM: COGNITIVE VERSUS STIMULUS-RESPONSE LEARNING

3:10 PM, Thursday, Georgian Room

NEAL E. MILLER, Chairman

Participants: Ernest R. Hilgard, David Krech, Kenneth W. Spence, Edward C. Tolman

VISION I

8:50 AM, Friday, Salle Moderne

Volunteered papers selected by the division

FRANK A. GELDARD, Chairman

8:50 AM The MacAdam color demonstrational apparatus. *Donald A. Gordon and Jozef Cohen, University of Illinois.*

The optical system of the color demonstrational apparatus constructed at the Illinois Laboratory is discussed. The apparatus is based on a modern design by David L. MacAdam of the Eastman Kodak Company after those of Abney and Maxwell. The piece utilizes a ribbon filament lamp, a large replica grating, four plano-

convex lenses of varying focal lengths, and two wedge-type deviating prisms.

The following effects are discussed and demonstrated:

- (1) The projection of a large, highly saturated spectrum.
- (2) The mixture of the spectrum to produce white.
- (3) The production of a slit or circle of colored light.
- (4) The production of two slits of colored light and their mixture.
- (5) Overlapping circles in complementary colors to produce white. The complementaries may be changed continuously.
- (6) Overlapping circles of three primary colors to produce white. The primaries may be changed continuously.
- (7) A spectrophotometric curve superimposed on the projected spectrum and its integration to produce the color seen of the spectrophotometric curve.
- (8) The subtractive effect of filters.
- (9) Demonstration of colors having equal tristimulus values, but vastly different spectral compositions.
- (10) The break down of a Kodachrome slide to its components—a demonstration of the theory of three color printing.

9:05 AM Logic for the isolation of the primary color receptors by use of Prevost's colors. *Jozef Cohen and Donald A. Gordon, University of Illinois.*

Color vision, of all psychophysical phenomena, has perhaps the most elegant scientific formulation. The color manifold can be represented as a closed three dimensional space with reference to three arbitrary primaries. The selection of these primaries is arbitrary since any set will predict color mixture data as well as any other set. The eye has consistently failed to resolve the visual stimulus into its components, and the selection of the axes must therefore be made with reference to some outside criterion. Helmholtz selected his with color blindness as a basis, Hering to predict after images, Ladd Franklin on a phylogenetic basis.

There remains one possibility as yet unexplored. We refer to the subjective colors of Prevost (sometimes called the Fechnerian colors)—colors produced by the intermittent stimulation of the retina by black and white. Discovered by Prevost in 1826, there have been at least fifteen rediscoveries. The most common example is the Benham disk. The colors are produced by the differential rise and fall of the three receptors.

If this is true, then the color space need merely be explored. When colors are found which, when pulsed below the fusion frequency, do not give rise to any subjective colors, then only one receptor is being stimulated. If it be that the receptors of the eye are imaginary (as is probably the case), contour lines may be drawn in the color space and extrapolated out.

Apparatuses for exploring the color space are discussed: optical system with diffraction gratings and mirrors; tunable Polaroid filters; tunable interference filters.

A progress report of the experimental work at the Illinois Laboratory is given.

After the primaries are located by the technique described, appropriate rotations are made, and new chromaticity diagrams and fundamental sensation curves derived.

9:20 AM An attempt to construct a quantitative pseudo-isochromatic test of color vision. *A. Chapanis, Johns Hopkins University.*

PROBLEM: Pseudo-isochromatic plates for testing color vision have been used extensively because of their simplicity and great convenience. A major criticism of such tests, however, is that they do not measure the amount of color deficiency an individual has. This paper reports an attempt to construct and validate a quantitative test of color vision.

THE TEST: The test has six charts. Each contains a digit made up of colored dots varying in reflectance (Munsell values 3/, 4/, 5/, and 6/) on a field of gray dots of similar reflectances. The colors are constant in hue (Munsell 2.5BG) for all plates. They are also constant in saturation on any one plate, but three different saturations (Munsell chromas /2, /4, and /6) are used in different plates. The examinee is thus required to discriminate between gray and hues differing from gray, i.e., in saturation, by various amounts.

POPULATION: The subjects were 574 visitors to the Sesquicentennial Exhibition held in Baltimore during December 1947.

PROCEDURE: Subjects were tested individually in an enclosed booth. They were required to read the charts slowly and to report exactly what they saw. In addition to the test described above, the test battery contained 79 plates selected from four standard pseudo-isochromatic tests.

RESULTS: The split-half reliability of the new test, corrected by the Spearman-Brown formula, is +0.964. The correlation between scores on the new test and total scores on the other 79 plates is +0.938. If the latter can be used as an indication of the amount of color deficiency an individual has, the new test is reasonably valid. The new test, however, contains fewer steps than is desirable. CONCLUSIONS: Preliminary attempts to construct a quantitative test of color vision appear to have met with reasonable success.

ACKNOWLEDGMENT: This research was performed under Contract N5-ori-166, Task Order I, between the Special Devices Center, Office of Naval Research, and The Johns Hopkins University. (Slides)

9:35 AM Some variables influencing Vernier acuity. *Katherine E. Baker, Connecticut College for Women.* (Abstract exceeded 300-word limit)

VISION II

10:00 AM, Friday, Salle Moderne

Volunteered papers selected by the division

WILLIAM E. KAPPAUF, Chairman

10:00 AM Temporal discrimination of the eye at different positions of the retina. *Alex L. Sweet, Johns Hopkins University.*

PROBLEM: The purpose of this study was to measure, at different retinal positions, the sensitivity of the human eye in discriminating between stimuli that are separated in time.

POPULATION: Data were gathered on three observers, male undergraduates, of normal vision.

PROCEDURE: The procedure consisted of presenting two small flashes of light to the observer and having him report whether the two lights were coming on at the same time or at different times. The actual difference in time of onset between the two flashes was systematically controlled. From the judgments, threshold-values for perceiving a time difference could be computed.

The light-sources were two "flash-tubes" controlled electronically. These two lights were placed tangentially adjacent to each other on a horizontal perimeter. Judgments were obtained at the following retinal positions: fovea, and 5°, 10°, 20° and 40° in the nasal retina. Only the right eye was used. Readings were taken in a dark room, with the subjects dark-adapted.

The following were the physical characteristics of the stimuli: color, white; visual angle, 14 minutes; duration, 15 milliseconds; brightness, .25 foot-candles, and rate of presentation, once every two seconds.

The stimuli were presented according to the method of limits. The probable error of the "same" or equal-time judgments was computed as the threshold.

RESULTS AND CONCLUSIONS: A plot of the average thresholds against retinal position shows that from the minimum value at the fovea (where the threshold is about 5 milliseconds), there is a slight rise in threshold-value to 5° in the periphery, followed by a steep rise to 10°, with slightly larger thresholds at 20° and 40°.

This indicates, that the fovea, contrasted with the periphery, is most sensitive to time-differences. The decreased sensitivity of the periphery is clearly manifest, beginning with 10° in the periphery. (Slides)

10:15 AM The decrease of critical flicker frequency with age. *Henryk Misiak, Fordham University.*

PROBLEM: It has been demonstrated before that the critical flicker frequency (c.f.f.) in old people is significantly lower than in young. The purpose of this study was to investigate the form, extent and cause of the decrease in c.f.f. with age.

POPULATION: 182 males and 137 females free from any

visual pathology, ranging from 7 to 89 years of age, with a mean age of 36 years.

PROCEDURE: An electronic apparatus with a neon glow lamp giving an intermittent light whose rate could be controlled by 3 adjustable resistors was used. The circular test-patch was 5 mm. in diameter. From the distance of 12.8 in. the subtending visual angle was 48 min. The observations were made with the dominant eye. The c.f.f. value of each S was the mean of the readings obtained from flicker to fusion and from fusion to flicker, which numbered 20 on the average. In the early stage of the research Ss were tested for 10 days with the number of readings ranging as high as 80, but when no significant day to day changes were found and the correlation coefficient between readings obtained on successive days was found above .95, the number of readings was reduced.

RESULTS: The mean c.f.f. under the experimental conditions of the study was 41.18 c.p.s. for the males, 41.08 for the females. The mean c.f.f. for the youngest group was 42.91, for the oldest 36.04, the latter showing a 1.6 per cent drop. The correlation between age and c.f.f. was found to be $-.52$, eta $.56$; the relation, however, was linear. No statistically significant changes in c.f.f. from one age-group to another were found, except between the young groups and individuals over 55. The inter-individual variability tends to increase, the intra-individual variability decrease, with age.

CONCLUSIONS: The c.f.f. decreases gradually with age; however it is only the individuals above 55 years of age who will tend to differ significantly from young individuals. The decrease seems to be due not to changes in the eye itself but to degenerative changes of the nervous system. (Slides)

10:30 AM Changes in visual perception of flicker, apparent motion and real motion after cerebral lesion
Hans-Lukas Teuber and Morris B. Bender, New York University College of Medicine.

Trauma of occipital lobes in man not only produces homonymous areas of blindness (scotomata) in the visual field, but characteristic alterations of perception in those homonymous areas of the field where vision is preserved. This study explores a particular aspect of these alterations in function, viz. the concomitant changes in perception of intermittent light (flicker) and of motion in the visual fields of brain injured subjects. In 28 Naval casualties with penetrating wounds of the occiput, critical frequencies for fusion of visual flicker (c.f.f.) were significantly below those of 20 normal controls in the center of the visual fields, and at additional points in each peripheral quadrant. In the defective fields, the per cent loss in c.f.f. (as compared with corresponding normal values), was minimal in a zone 10° from the fixation point. With increasing eccentricity the loss in

c.f.f. increased. Maxima in reduction of c.f.f. occurred in homonymous half fields or quadrants. In regions of greatest depression of c.f.f., there were also maximal disturbances in perception of apparent movement and of actual movement. The apparent speed of objects moving through areas of maximum depression in c.f.f. was increased. This was demonstrated when strips were moving at variable rates through different areas of the field and the subjects manipulated the relative speeds until they appeared subjectively equal. Thus, objects moving at various standard speeds appeared to subjects with trauma (but not to the controls) as either abnormally fast, or elongated, or multiplied. It was concluded: (1) neural rather than photochemical factors limit flicker perception in these brain injured subjects; (2) the limiting factor is an (abnormally slow) intermittence of cerebral function subserving vision; (3) one and the same functional mechanism determines perception of flicker, apparent motion, and actual motion after cerebral trauma.

10:45 AM Discrimination of simultaneity in a special case of the visual-auditory complication experiment.

J. W. Gebhard, Johns Hopkins University.

PROBLEM: To measure the threshold of simultaneity for a visual and an auditory stimulus.

POPULATION: Four trained observers.

PROCEDURE: Two black dots $\frac{1}{32}$ " in diameter were set one degree apart on a circular plastic sheet through which was viewed a rotating pointer six inches long and $\frac{1}{32}$ " thick. A synchronous motor and a gear box provided rates such that time values of five to 50 milliseconds per degree of rotation were obtained in 10 equal steps. A click heard in earphones was randomly synchronized with one or the other dot as the pointer passed it. The observer fixated the dots binocularly and determined which was coincident with the click at each pointer revolution. One hundred judgments were obtained at each of several settings above and below the rate of rotation at which 75% of the judgments was correct. All data were fitted by a method of least squares and thresholds were calculated. Investigation included the effect of direction of pointer movement and radial position of the dots relative to the center of rotation of the pointer.

RESULTS: (1) Stable thresholds varying from 10 to 20 milliseconds depending upon the observer were obtained with dots separated by one degree. (2) Radial position of the dots was unimportant provided the angular separation was held constant. (3) Thresholds were not affected by the direction of passage of the pointer across the retina. (4) Individual differences in performance remained constant: observers responded little to training after a few trials.

CONCLUSIONS: The discrimination of simultaneity of a visual and an auditory stimulus is shown by this method

to fit the normal probability curve from $p = 50$ to $p = 100$. At threshold ($p = 75$), the small values obtained indicate that discrimination in the complication experiment can be improved by a method of exact fixation. (Research was carried out under Contract N5ori-166 for Special Devices Center). (Slides)

TRANSFER AND INTERFERENCE I

1:40 PM, Friday, Salle Moderne

Volunteered papers selected by the division

W. J. BROGDEN, Chairman

1:40 PM The retroactive inhibition of a conditioned response as a function of extinction during interpolated learning. *James Deese, Indiana University.*

PROBLEM: The effect of extinction of an original response during interpolated conditioning upon retroactive inhibition.

POPULATION: 16 laboratory dogs.

PROCEDURE: 4 groups of animals were used in a typical retroactive inhibition design. Shock was used as an UCS. Group I was conditioned to flex the right rear leg to a CS of 800 cycles in 6 series of 20 trials each. The left rear leg was then conditioned to a tone of the same frequency for 3 series. Finally reconditioning of the original response was made. Group II went through the same procedure, except that a CS of 528 cycles was used in interpolated learning. Group III was subjected to simple extinction of the original response during the three interpolated series. Group IV served as a retention control. Both responses could occur simultaneously. RESULTS: Extinction of the original response during interpolated learning occurred in groups I and II, but less than in group III, since the original response was maintained in strength to some degree by the reinforcement of the interpolated response which occurred simultaneously. Original learning during interpolated learning in group I remained in greater strength than in group II, the CS for interpolated learning being different in group II. Retroactive inhibition is directly related to the extinction of the original response during interpolated learning. Some important conditions of extinction (spontaneous recovery, etc.) are influenced by the presence of interpolated learning.

CONCLUSIONS: It is hypothesized that retroactive inhibition of a conditioned response depends upon the relative strengths of the responses at the time of relearning. It was demonstrated that the strength of the original response could be varied independently by extinction during interpolated learning and that this was related to the amount of RI.

1:55 PM The effect of differential extinction on spontaneous recovery. *Alvin M. Liberman, Wesleyan University.*

PROBLEM: Because the typical extinction procedure does not differentially reinforce the many responses which may occur, the animal is not required to differentiate the primarily extinguished response from other responses, and the extinctive tendency may therefore be expected to transfer broadly. The breadth of transfer of the extinctive tendency possibly determines the rate of spontaneous recovery, insofar as recovery may result from the incidental strengthening of the responses to which the extinction transferred. These assumptions imply that recovery should be reduced following an extinction procedure which narrows transfer by causing the animal to differentiate the to-be-extinguished response from a not-to-be-extinguished response.

POPULATION: 15 hooded rats and 6 albino rats (all males, three to five months old) in each of two experimental groups.

PROCEDURE: Two groups of rats were trained to a running-time criterion on each of two markedly different runways, A and B. Both groups were extinguished to a common running-time criterion on Runway A: one group (double-extinction) was given non-reinforced trials on A, interspersed with non-reinforced trials on B; the second group (differential extinction) received non-reinforced trials on A, interspersed with reinforced trials on B. All animals were tested for recovery on A (five trials) one hour after extinction.

RESULTS: Running-times during extinction indicate that the differential-extinction group achieved the greater differentiation of the runways. On each of the five recovery trials the differential-extinction group showed less recovery than the double-extinction group. (The differential-extinction group required the greater number of trials to extinguish, but the appropriate correlations show that this factor does not account for the lesser recovery.)

CONCLUSIONS: Spontaneous recovery of a running response in rats is reduced when the extinction procedure causes the animal to differentiate the primarily extinguished running response from a second running response.

2:10 PM Spontaneous recovery of verbal associations as a function of number of extinction periods. *Benton J. Underwood, Northwestern University.*

PROBLEM: Previous studies have shown that when two verbal responses are learned to the same stimulus, the first learned item tends to recover response strength with the passage of time. This phenomenon has been interpreted as being analogous to spontaneous recovery of conditioned responses. It is presumed that extinction of the first response takes place during the learning of the second. If the analogy is valid, it would be predicted that the greater the number of extinction periods (with

number of trials held constant), the less the spontaneous recovery of the first learned response. The present experiments test this prediction.

POPULATION: Forty-eight college students.

PROCEDURE: Materials were lists of 10 paired adjectives. The A-B list was always learned to one perfect recitation. The A-C list was always presented for 18 trials. In a series of three separate conditions, a block of 18 trials on the second (A-C) list was presented 1 min., 5 hr., and 24 hr. after original learning. In another series of three conditions the 18 trials on the A-C list were presented in two blocks of nine trials each, these coming 1 min. and 5 hr., 1 min. and 24 hr., and 5 hr. and 24 hr. after original learning. Twenty-four subjects served in each of the two series. In a final condition, all 48 subjects were presented the 18 trials in blocks of six trials each, a block being given 1 min., 5 hr., and 24 hr. after original learning. Counterbalancing of conditions was complete.

For all conditions, controlled association tests were given 48 hr. after original learning, followed by the relearning of the original (A-B) list.

RESULTS AND CONCLUSIONS: The prediction is confirmed by two measures: (1) the greater the number of extinction periods, the less the frequency of response from the first list on controlled association tests; (2) the greater the number of extinction periods the greater the number of trials required to relearn the original list. (Slides)

2:25 PM The relation between number of confirmations of one hypothesis and the speed of accepting a new and incompatible hypothesis. *R. P. Youtz, Barnard College.*

PROBLEM: For human subjects working on arithmetic reasoning problems, to find the relationship between (a) the number of successful solutions by one hypothesis and, after that hypothesis fails, (b) the amount of time before a particular incompatible hypothesis is employed.

POPULATION AND MATERIALS: 80 Barnard College students, divided into 4 groups of 20 each. Fifty cards, each with a short arithmetic-reasoning problem; 40 of the problems solvable only when the subject uses hypothesis A; 10 of the problems solvable only when the subject uses hypothesis B.

PROCEDURE: Each subject solved a series of hypothesis-A problems followed by ten hypothesis-B problems. Log-time in seconds was recorded for the solution of each problem. The 4 groups of subjects received respectively 5, 10, 20, and 40 hypothesis-A problems before being given the 10 hypothesis-B problems.

RESULTS: 1. Time for hypothesis-A solutions smoothly and similarly decreased for all 4 groups. On the last solution by hypothesis A, the means of the groups differed significantly ($F = 11.00$, when $F_{.01} = 4.04$), with the 5-solution group taking the most time, the 10-

and 20-solution groups successively more, and the 40-solution group the least.

2. On the first hypothesis-B solution, the groups reversed their order of solution-time, with the 5-solution group taking the least time, the 10- and 20-solution groups successively more, and the 40-solution group the most ($F = 10.85$, when $F_{.01} = 4.04$).

3. Difference between times for last hypothesis-A solution and first hypothesis-B solution was significant at the .01 level for each group except the one with 5 hypothesis-A solutions.

CONCLUSIONS: 1. One determiner of resistance to a new hypothesis is number of previous successes on an incompatible hypothesis.

2. The results by this method seem reliable enough to indicate its further use in studies of acquisition and rejection of hypotheses in humans.

This study was done in collaboration with Miss Jean Kraus. (Slides)

TRANSFER AND INTERFERENCE II

2:50 PM, Friday, Salle Moderne

Volunteered papers selected by the division

JAMES J. GIBSON, Chairman

2:50 PM A dynamic theory of transfer. *George M. Haslerud, University of New Hampshire.*

PROBLEM: In contrast to the understanding of the nature and management of learning and retention is the confusion about the educationally vital problem of transfer and generalization. Almost the only general agreement is that transfer is small in amount; the various theories provide little basis for practical ways to increase transfer.

BASIS OF PROPOSED THEORY: From analysis of the literature on transfer and from certain new experiments on rats by the author a dynamic concept of transfer emerges. In these experiments the patterning of free parts of a long unilinear maze according to the problem set in other parts is taken as evidence of transfer. THESIS: The very motivational factors which establish and maintain learning also act to keep transfer minimal; when the peculiar generalizing possibilities of these factors are exploited, transfer can be enlarged.

1. Organisms have innate capacity for easy generalization, probably proportional to the amount of effective cortex.

a. Simple transfer, e.g., equivalence, the gradient of sensory generalization, etc.
b. Relationships, principles, patterns, etc., transferable *par excellence* because not necessarily tied to any organ or situation.

2. The potential range of transfer and generalization becomes greatly reduced by the ordinary arrangement of learning situations.

a. Extinction of the similar, e.g., discrimination problem.
b. Limitation of the problem by the goal, e.g., goal orientation, finality of a goal, etc.
c. Interferences set up by subsequent goals.

3. Transfer can be increased.

a. Powerful *backward* generalizing properties of goal and subgoal gradients, e.g., regard any learning as set for only a subgoal and project the problem also to the head of the subsequent goal gradient for anticipation.

b. Moderate *forward* transfer in the post-subgoal gradient when interferences from end goal are reduced, e.g., delay of food at goal weakens end goal gradient. (Slides)

3:05 PM The similarity paradox in human learning: a resolution. *Charles E. Osgood, University of Connecticut.*

The classic statement of the relation between similarity and interference in learning is that "the greater the similarity, the greater the interference." Yet, the limiting case of maximal similarity for both stimuli and responses is in the successive repetition of any S-R association; neither stimuli nor responses are precisely identical from trial to trial, but they are maximally similar, and here the greatest facilitation (ordinary learning) is obtained. Previous attempts to resolve this paradox, such as those by Robinson and McGeoch, are shown to be inadequate. Analysis and classification of existing evidence in the fields of transfer and retroaction, utilizing those investigations where the locus of similarities is specifiable, yields three empirical laws: (a) when stimuli are varied and responses are functionally identical, facilitative transfer and retroaction effects are obtained, their magnitude increasing with the degree of stimulus similarity. (b) when responses are varied and stimuli are functionally identical, negative transfer and retroactive interference are obtained, their magnitude decreasing as the similarity among responses is increased. (c) when both stimulus and response members are simultaneously varied, negative transfer and retroactive interference are obtained, their magnitude increasing with the degree of stimulus similarity. When these empirical functions are integrated within a single framework, a three-dimensional surface is generated which simultaneously represents degrees of stimulus similarity, degrees of response similarity, and the direction and degree of either transfer or retroaction. This formulation (1) is consistent with all experimental data in the field, insofar as the writer's analysis of the literature has been adequate, (2) integrates the phenomena of both transfer and retroaction within a single framework, and (3) resolves the basic paradox—the fact of ordinary learning becomes theoretically feasible. (Slides)

3:20 PM The effects of differential degrees of similarity of stimulus-response relations on transfer of verbal learning. *Irene P. Robinson, University of Chicago.*

PROBLEM: To determine the effects on transfer of simultaneously varying the similarity of the stimulus and the response. (1) Does the degree of response similarity significantly affect amount of transfer, independent of different degrees of stimulus similarity? (2) Does the degree of stimulus similarity significantly affect amount of transfer, independent of response similarity? (3) Do variations in one experimental condition significantly modify the effects of the other, i.e., is there a significant interaction?

POPULATION: 63 university students, naive as to purpose of the experiment.

PROCEDURE: Learning material consisted of paired nonsense syllables, presented visually. The method of adjusted learning was used. Three degrees of similarity of stimulus and of response were employed, making possible a total of nine experimental conditions. All subjects first learned the same list of 8 paired associates. The second list learned was determined by the experimental condition to which the subject had been randomly assigned.

RESULTS: Analysis of variance was performed on the difference between number of errors in first and second learning tasks. Significant F 's occurred for response conditions and interaction, but not for stimulus conditions. The amount of transfer is an increasing function of response similarity, rate of increase being a positive function of stimulus similarity. The effect of the degree of stimulus similarity on amount of transfer is dependent on response conditions.

CONCLUSIONS: Laws of transfer formulated from traditional "single factor" experiments have placed undue emphasis upon stimulus similarity. Response similarity is an important determiner of transfer, independent of stimulus conditions. The effects of stimulus similarity can only be predicted if the response conditions are known. (Slides)

3:35 PM Transfer and retroactive inhibition as a function of the drive stimulus. *Delos D. Wickens and Lyne S. Reid, Ohio State University.*

PROBLEM: The purpose of this experiment is to test the following hypothesis: 1. The learning of a new response is slower when the drive stimulus is the same for both the old and new responses than when it is heterogenous. 2. There is greater retroactive inhibition when the drive stimulus of the original and interpolated learning is similar. That is, do drive stimuli (hunger or thirst) have the same characteristics as external stimuli in the transfer and retroactive inhibition paradigms?

POPULATION: 32 female white rats of approximately 100 days old.

PROCEDURE: Following a period of adjustment to handling, and straightaway pretraining, sixteen animals were placed on food deprivation and sixteen on water deprivation. Both groups were then given eighteen trials on a T-maze, the goal box on the right arm of the maze containing the incentive appropriate to the drive.

The incentive was then shifted to the left arm, and the drive changed for half the animals of each group (hunger to thirst, or thirst to hunger). The drive for the remainder of the animals was unchanged. After all the animals had run to a criterion of ten correct responses in twelve trials on the left, the incentive was shifted back to the right arm, and the animals returned to their original drive state. They were then run to a similar criterion.

RESULTS: The hypotheses as originally stated were confirmed at a significant level of confidence.

CONCLUSIONS: This experiment extends the original Hull and Leeper studies in the discrimination of drive stimuli. First, it demonstrates that the drive stimulus easily becomes attached to a response, and second it places drive stimulus learning in the frame work of learning phenomenon heretofore usually limited to external stimuli.

REACTIVE INHIBITION

4:00 PM, Friday, Salle Moderne

Volunteered papers selected by the division

CLAUDE E. BUXTON, Chairman

4:00 PM A demonstration of learning based solely on the work inhibition drive—a substantiation of Hull's concept of S¹R. *M. Ray Denny, Michigan State College.*

PROBLEM: The present study is an attempt to test the hypothesis that learning can take place on the basis of the work inhibition drive entirely independent of another motive, or set to learn or conscious intent to avoid work.

POPULATION: The final procedure employed 38 elementary psychology students, 20 experimental and 18 control subjects.

PROCEDURE: The following procedure gave the most clear cut results. A drum exposure apparatus requiring adjustable amounts of work on the part of the subject to turn the drum was employed. S wore a glove and turned the handle against a pressure of approximately 10 pounds in order to present each new stimulus. The stimuli were 6 horizontal lines vaying in length from 1 $\frac{3}{8}$ " to 2 $\frac{3}{8}$ " and 6 lines varying from 4 $\frac{3}{8}$ " to 5 $\frac{1}{4}$ " viewed individually through a 6 inch opening. All S's were told the experiment was a study of the estimation of lengths of lines and the experimental group knew that part of the time the drum might turn automatically. Whenever S in the experimental group gave the verbal

response 5 or 2½, the drum turned automatically. For the control group the drum never turned automatically. All subjects were given 20 trials.

RESULTS: A steady progression from a mean of 4.7 "correct" responses on the first two trials (24 judgments) to a mean of 10.2 "correct" on the last two trials showed undeniable learning in the experimental group. Only 3 subjects were clearly conscious of the relationship between their response and work avoidance.

In the control group, there was no greater preference for the 5 and 2½ responses at the end than at the beginning of the experiment.

CONCLUSION: A response which is followed by the avoidance of work may be learned without the knowledge that any response is being learned and without the verbalized intent to avoid work. (Slides)

4:15 PM An investigation of the effects of massed practice of a motor skill. *R. B. Ammons, Tulane University.*

POPULATION: 200 undergraduate women college students, naive to rotary pursuit, served as Ss.

PROCEDURE: Ss practiced a total of 36 min. each on a Koerth-type pursuit rotor, the time being divided into 3 12-min. periods. These 12-min. periods were arranged as follows: an initial 12-min. period with a predetermined length of rest between the successive 20-sec. trials; a second 12-min. period of continuous practice, starting 25 min. after the end of the last trial in the initial period; a third 12-min. continuous practice period approximately 24 hrs. later. Ss were run in 7 groups, 6 of 28 Ss and one of 32. Conditions differed only as to the length of the constant rest period allowed between the 36 successive 20-sec. trials in the initial 12-min. practice period. These rests for the seven conditions were 0 sec., 20 sec., 50 sec., 2 min., 5 min., 12 min., or 24 hrs. in length. Groups were closely matched as to means and standard deviations for the first 20-sec. trial by reduction of 6 groups to 24 Ss and one to 20.

RESULTS: Means by 20-sec. trials were plotted for all groups, and an analysis made of the effects of initial distribution of practice on warming-up, temporary work decrement, and permanent work decrement. Temporary work decrement summates to a level which is a positively accelerated decreasing function of the length of inter-trial rest; and is subsequently greater during massed practice, the greater the initial distribution. Warming-up decrement disappears in subsequent sessions when initial intertrial rests are 2 min. or longer, while massing produces a relatively permanent decrement of as much as 30 per cent in performance level.

CONCLUSIONS: Massing of practice has a marked immediate and delayed effect on subsequent warming-up, and temporary and permanent work decrements.

4:30 PM Habit, performance and the detrimental effects of practice in motor learning. *Gregory A. Kimble, Brown University.*

PROBLEM: A primary assumption behind experimentation in motor learning is that it is performance rather than habit which is influenced by the characteristic detrimental effects of massed practice in the acquisition of skill. According to this postulate, skill is acquired at approximately the same rate regardless of the practice conditions, but performance is reduced to the extent that inhibitory processes accumulate as a result of decreasing the rest time between trials. A test of this major assumption is the purpose of the present experiment. POPULATION: Six groups of subjects were used in a pursuit rotor experiment. Two of these were control groups; four were experimental groups. Individually, the two control groups were a massed practice group and a spaced practice group. The experimental groups shifted in the course of practice from the massed to the distributed condition or vice versa. At least 10 subjects were used in each group.

PROCEDURE: The experimental design involved 20 practice trials, 50 sec. in length for all groups. The massed practice control group learned under conditions allowing 10 sec. rest between trials; the spaced practice condition allowed 70 sec. between trials. Two of the experimental groups shifted from massed practice to distributed practice after 5 and 9 learning trials. The other two experimental groups shifted from distributed to massed practice conditions at similar points in learning. RESULTS: Performance curves show that the shift in practice conditions produces a gradual change in performance to a level which is predictable from the control groups' learning curves.

CONCLUSIONS: The results confirm the hypothesis that it is performance that is controlled by the practice conditions.

The author wishes to acknowledge the assistance of Miss Marcia Hughes who collected the data.

4:45 PM The influence of the remote association gradient in determining the relative difficulty of items in serial rote learning. *B. R. Bugelski, University of Buffalo.*

POPULATION: 128 college students, experienced in nonsense syllable learning.

PROCEDURE: Each subject learned a serial list of eight nonsense syllables for eight trials by the anticipation method. A three-second exposure memory drum was used. Subjects spelled out responses which were recorded verbatim. They were encouraged to respond freely, even though in error, to each stimulus syllable. Responses were tabulated for each stimulus according to their locations in the list.

RESULTS: 1. Remote forward associations diminished

with negative acceleration from the first through the 6th degree of remoteness in accordance with Hull's theoretical analysis and his description of the stimulus trace. This confirmation contradicts a previous study purporting to deny the gradient. 2. First order remote associations were more frequent for stimuli appearing later in the list than for earlier stimuli. This finding suggests that the *number* of remote associations spanning a direct association, as originally proposed by Hull, is not enough to account for the relative difficulty of the separate items. The remote associations must be weighted in accordance with their values. A system of such values is suggested which alters Hull's symmetrical curve (showing greatest difficulty in the middle of a list) to one showing the greatest difficulty just beyond the middle, corresponding to the usual empirical finding. 3. Plotting of actual remote associations spanning the several direct associations results in a curve corresponding more closely to the newly derived one than to Hull's original deduction.

CONCLUSIONS: The results support Hull's deduction of the relative difficulty of learning items in a serial list and the concept of the diminishing strength of a stimulus trace. By assuming additional properties of such a trace, the greater difficulty of learning just beyond the middle of a list is explained. (Slides)

PERFORMANCE

8:50 AM, Saturday, Ballroom

Volunteered papers selected by the division

WILLIAM A. HUNT, Chairman

8:50 AM Factorial analysis of arm-hand precision tests. *Frank J. Dudek and Robert H. Seashore, Northwestern University.*

PROBLEM: To determine the nature of factors underlying performance on seven measures of visuo-motor coordination emphasizing precision of movement of preferred arm and hand.

POPULATION: 39 university men in Group I (completed); 100 men in Group II (data collected).

PROCEDURE: Administration of seven electrically scored motor tests under the cycle plan—cycles 1 and 2 on first day; cycles 3 and 4 48 hours later. Tests were: (1) Arm-hand sway, (2) arm-hand stationary aiming, (3) arm-hand stylus thrusting, (4) straight path stylus tracing, (5) irregular path stylus tracing, (6) two-dimensional rod-and-ring tracing, (7) three-dimensional rod-and-ring tracing.

RESULTS: Intra-day reliabilities (Cycles 3 vs. 4) ranged from .66 to .97; inter-day reliabilities (Cycles 2 vs. 4) ranged from .44 to .71. Using Thurstone's centroid method, three independent factors were extracted and tentatively identified as: involuntary arm and hand

movements; manipulating a stylus in two dimensions; and precision in manipulating a ring in three dimensions (including wrist rotation). Procedures for Group II were revised slightly to increase test reliabilities and data will be analyzed as for Group I.

CONCLUSIONS: Previous findings of Seashore and Adams, and of Humphreys, Buxton and Taylor which indicated at least one significant cluster of steadiness test scores among five tests are here extended to include five other tests which appear to involve two additional clusters or group factors. The project is continuing to determine whether there are still other factors involved in tests emphasizing body balance under both static and dynamic conditions.

The experiment is part of a larger project under the sponsorship of the Office of Naval Research. Experimenters were: Wayne Holtzman, Robert Houston, Douglas Ellis, William Knowles, and Richard Hetke.

9:05 AM The effect of speed-up instructions upon the performance of discrete movements in the horizontal plane. *Judson S. Brown, State University of Iowa.*

PROBLEM: To determine the effects of an increase in motivation upon the speed and accuracy with which human subjects can execute simple discrete movements of the hand and arm.

POPULATION: Twenty-four male undergraduate college students.

PROCEDURE: The task was that of sliding a light-weight pointer across a horizontal surface from one visually perceived line to another. Each movement was initiated at the sound of a buzzer and was confined to a horizontal line lying in the frontal plane. Three lengths of movement (2.5, 10, and 40 cm.) and two directions (left to right and right to left) were studied. Two groups of subjects were given the same instructions at the start of the test, but one group was, in addition, reminded repeatedly throughout the test that speed was important. Graphic records were obtained of the 60 reactions of each subject.

RESULTS AND CONCLUSIONS: (1) For both groups the mean movement-reaction time was 0.25 sec., being nearly independent of length or direction of movement. (2) The speed-up instructions produced only a slight decrease in total movement time at the two longer distances and an increase at the shortest. (3) Under both conditions, the more rapid the initial phase of the movement, the larger the constant errors, and the longer the time expended in making the final secondary corrective adjustments. (4) Both average and maximum speed of movement increased markedly with speed-up instructions, the obtained increases being almost exactly proportional at all three distances for both measures. The function relating speed of movement to distance

appears to be of the general form $y = ax^b$ for both groups.
 (5) It is concluded that overall efficiency is altered but slightly by increased motivation since increases in speed are offset by losses in accuracy. (Slides)

9:20 AM A test of the effects of glutamic acid on the learning ability of the rat. *Eliot Stellar, Johns Hopkins.*

PROBLEM: Zimmerman and Ross reported that feeding excess glutamic acid to rats of the Sherman strain facilitated their maze learning ability. Of subsequent experiments on albino rats, one has suggested confirmation of these findings and two have reported no facilitating effects of glutamic acid on learning or reasoning. The present experiments were designed to help resolve these conflicting findings by duplicating, as nearly as possible, the study of Zimmerman and Ross, except for the strain of animals used.

POPULATION: Twenty-eight pigmented rats (descendants of the Lashley strain) were used.

PROCEDURE: The twenty-eight animals were divided into two equal groups matched for weight, sex, and litter. Starting at six weeks of age, the animals of one group were individually fed a supplement of 200 mgs. of neutralized 1 (+) glutamic acid with each daily meal of Chick Growena mash. The controls were maintained on the same feeding schedule but never received the glutamic acid supplement. After fourteen days of such treatment, the animals were allowed one trial a day on an eight-cul, single alternation, Warner-Warden maze for twenty-one days. The rats were then given eleven trials on an eight cul, double alternation, Warner-Warden maze and twenty-four trials on a four-cul, double alternation, elevated maze.

RESULTS: Statistical analysis showed no significant differences between the control and glutamic-fed rats in any of these tests in respect to the total time and error scores and the number of trials required to meet a criterion of four out of five errorless runs.

CONCLUSIONS: Strain differences remain as the only possible variable that could account for the difference in results between our experiment and that of Zimmerman and Ross. At present, there is little evidence for a facilitating effect of excess glutamic acid feeding on the learning ability of the rat.

William D. McElroy collaborated in the experiment. (Slides)

9:35 AM Experimentally induced changes in the mental performance of mental defectives. *Mrs. Kathryn Albert Gasorek, Florence Crittenden Home.*

In collaboration with Hoch, Parker and Waelsch the mental performance of sixty mental defectives was measured under the influence of orally administered glutamic acid. Tests were administered prior to

medication and four and eight months after the beginning of medication. A follow-up at four months is planned. Part of the group was initially placed on glutamic acid and part on a placebo (Lactose). At the end of four months medication for some of the individuals was changed; those who initially received glutamic acid being given a placebo and those who initially were given a placebo were given glutamic acid.

Preliminary analysis of Binet scores indicates that with glutamic acid a small but significant rise in I. Q. occurs whereas those given a placebo do not show such change. Pattern analysis of the types of changes occurring on the Binet, as well as on other standardized psychological tests will be considered.

OTHER SENSES

10:00 AM, Saturday, Ballroom

Volunteered papers selected by the division

JOHN VOLKMANN, Chairman

10:00 AM The olfactorium, an apparatus for odor research. *Dean Foster, Joseph E. Seagram and Sons and Karl M. Dallenbach, Cornell University.*

The low reliability characteristic of much olfactory research has been due, in part, to an absence of fundamental controls. Most modern odor-research equipment permits relatively sensitive control of the pertinent physical and chemical variables. None, however, considers equally important qualities of the experimental situation. Although it is generally known that adaptation greatly affects subsequent responses, psychologists continue to conduct experiments in any convenient room or laboratory. The results obtained under such conditions are comparable to an auditory stimulus threshold obtained on a busy street corner.

Another weakness with traditional apparatus can be ascribed to the great sensitivity of the olfactory receptors.

The present paper describes the first instrument equipped to provide a completely controlled odor environment. Pure odor-free, or odor-bearing air, of known humidity, temperature, and pressure, may be automatically introduced into this instrument, the *Olfactorium*. It is essentially a glass double chamber of 250 cubic feet capacity, supplied with automatic air-purification and control apparatuses. Odorous materials can be introduced at different places and by different methods, or if desired, the air in either chamber can be left stagnant. The observer, after bathing, immediately enters the ante-chamber of the *Olfactorium*, dons an odorless envelope, and is then introduced into the observing compartment.

The instrument is flexible, and is adapted to a wide variety of quantitative and qualitative problems, some of which will be described. Data will also be presented

concerning the importance in olfactory research experiments of controlling frequently neglected variables, such as specific atmospheric conditions, residual odors of the subject, and conditions of stimulation.

We are indebted to E. H. Scofield for the idea of an olfactorium and aid in its design, and to the Seagram Company for providing the instrument and its installation.

10:15 AM Salt preference following denervation of the tongue. *Carl Pfaffmann and John K. Bare, Brown University.*

PROBLEM: Earlier experiments have shown that in a choice situation, normal rats will prefer a salt solution to water when both are available, provided that the solution lies above the preference threshold concentration. The amount of suprathreshold salt solution ingested is proportional to the strength of the solution up to a concentration of 0.9% (approx.) at which concentration the maximum preference is shown. Above this value, the preference falls off. Strong salt solutions are avoided. In the present study, this behavior was studied following surgical denervation of the tongue.

PROCEDURE: Bilateral removal of either one or both of the nerves supplying the anterior and posterior regions of the rat's tongue were carried out. The following groups were studied:

- a. Combined lingual (including chorda tympani) and glossopharyngeal (IXth) nerve removal (4 rats).
- b. Removal of IXth nerve only (4 rats).
- c. Removal of lingual (including chorda tympani) nerve only (5 rats).
- d. Control animals subjected to sham operations (3 rats).
- e. Normal unoperated animals (5 rats).

Following the appropriate surgical procedures and recovery therefrom, the salt preference over a wide range of salt concentrations was determined.

RESULTS: All groups showed the essential salt preference. On the other hand, animals with only the posterior tongue region innervated, showed an aversion to salt at slightly weaker salt concentrations than did normals. These results are considered to be preliminary until histological controls on the efficacy of the surgical procedures have been carried out.

CONCLUSIONS: The preference for salt solutions displayed by the normal rat is not exclusively dependent upon the nerves subserving lingual sensitivity. This suggests that some sensory mechanism other than lingual taste is essential in initiating this behavior. (Slides)

10:30 AM A psychological scale of weight and a formula for its derivation. *Robert S. Harper and S. S. Stevens, Harvard University.*

Previous work has indicated the possibility of constructing scales of psychological magnitudes. The present experiment was designed to illustrate the construction of a scale of subjective weight. Twelve observers selected the weight which felt "half as heavy" as the standard for each of eight series of weights. Each series consisted of a standard weight and six comparison weights. The criterion of "half as heavy" adopted by the observers was predominantly either (1) that weight which "pulls" half as much as the standard, or (2) that weight which when added to itself would be judged equal to the standard. From the data obtained a scale was constructed relating subjective weight (in vegs) to physical weight (in grams). The unit of subjective weight, called a veg, was designated as the weight experienced by lifting 100 gm.

When the veg scale is used to measure the subjective size of *jnds* for weight, it is found that they are not equal. *Jnds* increase rapidly in subjective size as physical weight is increased.

It has been customary to construct psychological scales by a kind of graphic integration of fractionation data. However, when the fractionation data give a simple function in a log-log plot, as they do in this case, it is possible to derive a formula relating the psychological and physical magnitudes. From the data such a formula was derived. The scales obtained from the graphical integration and from the mathematical formula agree.

10:45 AM Lack of randomness in sequences of auditory differential threshold data. *John P. Flynn, Naval Medical Research Institute.*

In psychophysics the psychometric function is assumed ordinarily to be a normal ogive, and this form is explained on the basis of the normal curve and the binomial expansion. A method of testing the validity of this explanation exists in the probability of arrangements and the theory of runs. This method has been applied to auditory differential threshold data. An analysis of 476 sequences, each one of 25 elements, obtained from four subjects shows that the probability of these sequences having arisen from a binomial universe to be less than .01. Two rhythms, a fast and a slow one, are indicated by the data, i.e., in some sequences there are too few runs and in others too many. (Slides)

PSYCHO GALVANIC REFLEX

11:10 AM, Saturday, Ballroom

Volunteered papers selected by the division

LORRIN RIGGS, Chairman

11:10 AM Individual differences in somatic response patterns. *John I. Lacey, Fels Research Institute.*

PROBLEM: To test the hypothesis of characteristic individual differences in somatic response *patterns*.

POPULATION: The main sample consisted of nine pregnant women tested at weekly intervals for nine weeks. A supplementary sample of seven college students tested three times a week for two weeks was also used.

PROCEDURE: Palmar conductance, blood pressures, heart-rate, and heart-rate variability were recorded during relaxation, anticipation of stress, reaction to stress, and recovery from stress. The stresses used were: rapid controlled association, difficult mental arithmetic, and the cold-pressor test. The serial measurements for each individual were then compared with those of every other individual, in an attempt to discern differential patterns of response.

RESULTS: Most subjects could be distinguished from at least one other subject, in that statistically significant reversals of the direction of discrimination between two subjects in a comparison occurred. That is: on the basis of the serial measurements one could say, e.g., that subject A showed significantly greater heart-rate reaction, and significantly less systolic blood pressure reaction than subject B.

CONCLUSIONS: The evidence supports the hypothesis that individuals may differ significantly in *patterns* of somatic response, and that the direction of discrimination between two individuals may depend upon the physiological variable used. (Slides)

11:25 AM Studies in the detection of deception: I. determination of guilt or innocence from psychogalvanic (PGR) records of delinquents and non-delinquents. *Fabian L. Rouke, City College of New York and Joseph F. Kubis, Fordham University.*

PROBLEM: to determine (1) under what conditions the PGR can be used as a valid index of deception. (2) whether delinquents are less subject to detection in a lie than non-delinquents.

POPULATION: Eighty (80) delinquent boys (Court referrals); ninety (90) non-delinquent controls.

PROCEDURE: Members of each group were divided into pairs and offered money by an assistant with instructions: that one of them should take it and keep it; when questioned concerning the money they were to deny possession; if they fooled the examiner they could keep the money; if detected they would be penalized.

Subjects were questioned orally, with two forms of a special questionnaire containing critical, emotional and special questions. During questioning a record of the PGR was taken with a two-stage D.C. amplifier and an Esterline-Angus recording millimeter. A minimum of two records was obtained from each subject.

Judgments of guilt or innocence were made by the examiner at the end of each test session. Four months later the examiner and another judge (who had not taken

part in the experiment) independently made analyses of (a) isolated single records; (b) all the records of each subject; (c) the records of each pair.

RESULTS: (1) Analysis based on single records yielded low accuracy; based on two records accuracy was significantly above chance; based on the number of records deemed necessary by the examiner, accuracy reached 97%. (2) Comparative analysis of records of paired subjects was more accurate than individual analysis. (3) Analysis proved reliable after a four month interval. (4) Accuracy was not significantly greater for non-delinquents than for delinquents.

CONCLUSIONS: (1) When the number of records deemed necessary by an experienced examiner were obtained from each subject, the PGR proved a reliable and highly valid index of deception. (2) Although significantly above chance, analyses based on only two records are not sufficiently accurate for practical use. (3) Delinquents are not less subject to detection in a lie than non-delinquents.

11:40 AM On the application of analysis of variance to galvanic skin response data. *Harold E. Jones and Ernest A. Haggard, University of California, Berkeley.*

PROBLEM: To examine in detail four frequently used measures of the GSR in terms of the assumptions underlying the valid use of the analysis of variance and the *F*-test of significance (that is, that the data possess the qualities of: additivity, normality, homogeneity of the variances, and the independence of the means and variances). The importance of considering these assumptions, regardless of the type of data, lies in the fact that if they are sufficiently violated, the conclusions based on an *F*-test may be entirely misleading.

POPULATION: Fifty boys and 50 girls were tested at 13.5 and retested at 17.5 years of age. For the two samples together, a total of 2305 GSR's to 24 words previously rated by the S's as being pleasant, indifferent, and unpleasant in emotional tone were analyzed.

PROCEDURE: Each response was quantified in terms of the measures of: Resistance change, Conductance change, change in the Log Resistance, and Log of the change in Conductance. Separate analyses were made for each GSR measure, for the two age groups, and in some cases for the two sex groups in terms of the above mentioned assumptions underlying the analysis of variance. An additional test was made in terms of the precision of each of the four measures.

RESULTS AND CONCLUSIONS: From the findings of this study, the Log of the change in Conductance measure should be used to quantify GSR data because: (a) This measure most satisfactorily met the assumptions underlying the analysis of variance. (b) In addition, of the available measures which legitimately may be used to

quantify GSR data, the Log of the change in Conductance is most satisfactory in terms of its ease of computation, general utility, relation to the basic data, and theoretical generality. (Slides)

11:55 AM Adaptation of the psychogalvanic response (PGR) to a visual auditory and ideational stimulus.

J. F. Kubis, Fordham University.

PROBLEM: To determine (a) the existence of differences in the rate of specific and generalized adaptation of the PGR among three different types of stimuli; (b) the effect of zero, five and ten minute intervals between the applications of the different stimuli; and (c) the existence of sex differences.

POPULATION: Fifty-four male and eighteen female subjects between the ages of 17-26.

PROCEDURE: A Latin Square arrangement of subjects, stimuli and order of presentation was utilized in the experimental design, each subject being presented with three different stimuli: a light, a buzzer, and a question used as an ideational stimulus. Each stimulus was presented successively until the subject adapted to it. The criterion of adaptation was two successive failures of the stimulus to elicit a PGR reaction.

The duration of each stimulus was controlled by an electronic interval timer and the PGR response recorded by a two-stage D.C. amplifier with an ink recording millimeter.

Three intervals (zero, five and ten minutes) were used between presentations of the different stimuli after adaptation to one had been obtained. The eighteen girls were in the zero interval group for comparison with the male zero interval group ($N = 18$).

For this type of data a square root transformation was also considered and analyzed.

RESULTS AND CONCLUSIONS: (1) Significant differences were obtained among the adaptation rates to the three types of stimuli; the quickest to the light and the slowest to the ideational stimulus. (2) No significant general adaptation effects were noted although the trend of the data indicated a progressive diminution in adaptation scores from the first to the third position. (3) No significant effects were produced by varying the time intervals between applications of different stimuli. (4) There were no significant sex differences in adaptation. (5) Intercorrelations among stimuli were low, further evidence suggesting specificity of adaptation.

DIVISION ON EVALUATION AND MEASUREMENT

BUSINESS MEETING

4:30 PM, Wednesday, Parlor A

ANALYSIS OF TEST PROCEDURES

4:00 PM, Friday, Assembly Room

Volunteered papers selected by the division

HERBERT S. CONRAD, Chairman

4:00 PM The V. D. L. psychomotor scale for the measurement of manual ability. *M. J. A. Van Der Lugt, New York University.*

DESCRIPTION: This scale is an individual apparatus test consisting of a battery of ten original tests which have been designed to give in a relatively short time a comprehensive picture of a subject's manual ability, both in general and for specific factors.

After due consideration and experimentation, the choice of components has been limited to the following factors: speed, pressure, accuracy, motor memory, and static and dynamic coordination.

Each component is to be measured by two tests, one of which is primarily a motor and the other one primarily a sensory-motor test.

POPULATION: The original construction and standardization of this battery of tests was carried out in The Netherlands with 2,128 children from 6-12 years equally proportioned as to age, sex, and socio-economic groups.

An American standardization on children has been undertaken with no marked differences in the results. RESULTS: Norms for children as well as for adults are worked out in percentile tables. The graph thus obtained shows for a given age group the relation between the subscores as well as the placement of the total score. An individual profile can be drawn from the percentile norms.

INTERPRETATION: The norms obtained on European children reveal:

- 1) a gradual development of the primary motor functions concerned with increase of age, at least until the age of twelve.
- 2) small differences in sex performances for several of the tests.
- 3) small, but distinctly marked differences between the socio-economic groups.
- 4) a negative correlation with intelligence for superior subjects; a strong positive correlation for feeble minded individuals; and no definite relationship for average subjects.

CONCLUSIONS: The battery is meant primarily for diagnostic purposes. Applications have been made in the educational, industrial, and clinical fields in various European countries and in limited application in the United States. More extensive research and use is needed.

To test the adequacy of this equation, a large scale empirical study was carried out using a sample of 1,000 answer sheets on a test of 256 items. Nine synthetic tests were drawn from this test by means of item-analysis data. Each of three degrees of skewness (negative, zero, and positive) was combined with each of three degrees of kurtosis (platy-, meso-, and leptokurtosis) in planning

these tests. The actual magnitude of the standard error of measurement was found for each unit and for each five units of total test score on the synthetic test. The values predicted by the theoretical equation were compared with those empirically observed and also with those of the curve of best fit between total score and standard error of measurement.

For the test material used, in which guessing was an unimportant factor in success on an item, substantial agreement was found between the theoretical and the observed values. The zero-slope straight line resulting from the usual assumption that the standard error of measurement is constant was found to be an accurate representation of the observed standard error only when the score distribution was mesokurtic and had negligible skewness. Under these conditions, furthermore, the theoretical curve reduces to a zero-slope straight line. (Slides)

✓9:05 AM Effect of item difficulty and reliability on test score skewness. *Harold Gulliksen, Princeton University.*

PROBLEM: Can the third moment (m_3) of the test score distribution be determined from item parameters?

PROCEDURE: Test mean, variance, reliability and validity have been expressed as functions of a difficulty, reliability and validity index for each item. A similar expression for m_3 involves many terms of the form $\sum xyz$ (where x , y , and z stand for item scores). Appropriate approximations for these terms will be discussed.

RESULTS: For the case of chance relationships $m_3 = \sum p(1-p)(1-2p)$, which is a maximum when $p = .21+$, and a minimum when $p = .79-$.

For a test of items of the same difficulty perfectly correlated, the third moment is $K^2 m_3$ (K is number of items).

A general equation which will use some reasonable approximations to $\sum xyz$ will be presented and illustrated with data.

CONCLUSIONS: To maximize skewness use items with the highest item-test correlations. For negative skew, all these items should be answered correctly by $21+\%$ of the group. For positive skew they should be answered correctly by $79-\%$ of the group.

To obtain a distribution with zero skew

1. use all items of 50% difficulty, or
2. match each item of difficulty $50 + c$, and item-total correlation r_1 , with another item of difficulty $50 - c$, and item-total correlation r_1 .

Tests which have an item difficulty distribution which is perfectly symmetrical around the 50% point, will show a negative skew if the easy items correlate higher with total score than do the difficult items, and will show a positive skew if the difficult items correlate higher with total score than do the easy ones.

9:20 AM Quest for a random sample. *Edward L. Clark, Northwestern University.*

PROBLEM: To obtain empirical evidence for the usefulness of the standard error formula for the mean of a sample.

POPULATION: Five thousand leaves from a ginko tree and over 20,000 words from a dictionary measured for length; 75 sections of English students weighed, measured, and tested; 3500 students grouped according to month of birth whose high school rank, test scores, and college grades were noted; 2000 applicants for admission who were tested; and miscellaneous other groups such as sex groups for numerous entering freshman classes whose grades were considered.

PROCEDURE: For each of the populations mentioned above samples were selected quite as one might select a single sample for an investigation. The variability of sample means was compared with the variability of sample means which one might expect from a knowledge of the individual differences in the population.

RESULTS: In general the variability of the sample means was greater or even much greater than would be anticipated from a knowledge of individual differences. An exception to this general finding was the randomness of height and weight means of the 75 sections of English, and of the high school records, test scores, and grades of those students arranged according to month of birth.

CONCLUSIONS: The use of the standard error formula for many samples is of doubtful value in anticipating the means of successive samples. Frequently samples are not random samples of any identifiable population and so to consider them may lead to erroneous conclusions.

9:35 AM The measurement of citizenship activities and opinions in a national sample of college graduates. *C. Robert Pace, Syracuse University.*

MAJOR PROBLEM: to appraise the role in society (particularly in regard to citizenship) played by college educated men and women, relating this to the pattern of education received in college.

MINOR PROBLEM: to develop scales for measuring the amount and level of participation in citizenship activities; and scales for measuring the "desirability" of opinions with respect to politics, government, civic relations, and international affairs.

POPULATION: All living U. S. college graduates whose last names began with "Fa." Data were obtained by questionnaire from 63% of this group, and bias was checked by interviews with a sample of the non-respondents.

PROCEDURE: Two activity scales, similar to psychophysical scales, were prepared to measure participation in politics and civic affairs. Four opinion scales were prepared to indicate the extent to which alumni opinions correspond to the opinions of experts. These scales were included in the national survey of college graduates

conducted by the Research Department of Time Magazine. Scores were obtained on these scales and the results analyzed in relation to various educational, sociological, and psychological factors: for example, graduates of Liberal Arts colleges *vs.* Technical *vs.* Professional schools; large *vs.* small schools; men *vs.* women; marital status groups; age groups; occupational groups; regional groups.

RESULTS AND CONCLUSIONS: About one-fifth of college graduates engage in very few political or civic activities; another fifth are very active—writing letters, signing petitions, contributing money, etc. On 9 of the 24 opinion statements, the majority opinion of college graduates runs counter to the majority opinion of the experts. Patterns of participation and opinion are presented, together with technical notes on the methods of scale analysis and the test-retest consistency of the activity and opinion scales.

FACTORS IN ACHIEVEMENT

10:00 AM, Saturday, Parlor A

Volunteered papers selected by the division

C. ROBERT PACE, Chairman

10:00 AM The status of college students in terms of IQ's determined during childhood. *Royal B. Embree, Jr., University of Texas.*

PROBLEM: To discover the relationships between measures of mental ability determined during childhood and scores on college aptitude tests, entrance to and graduation from college, field of study and the completion of graduate or professional study.

POPULATION: Graduates of the University of Minnesota High School, 1921–1945, who attended college.

PROCEDURE: (1) *Follow-up.* The IQ's of approximately 1200 graduates were secured. 951 of these persons were traced to college. Data were available for 477 bachelor's degrees, 127 advanced degrees and 64 honor graduates. (2) *Equation.* Equations were established between IQ's and scores on the 1937 A. C. E. examination. The equation of these two measures provided a yardstick which could be applied to many situations. (3) *The IQ* used in this study was the mid-equated value of five IQ's determined from group intelligence tests. The distribution of mid-equated IQ's was closely similar to that of 1916 Stanford-Binet IQ's. Mid-equated IQ's correlated 0.60 with school marks, 0.82 with 1916 Stanford-Binet IQ's, 0.78 with 1937 Stanford-Binet IQ's and from 0.80 to 0.86 with scores on the A. C. E.

RESULTS: (1) Mean childhood IQ's of various groups were as follows: college entrants, 118; bachelor's degrees, 123; advanced degrees, 126; honors graduates, 133; and Phi Beta Kappa, 137. The IQ's of persons who received degrees ranged from 95 to 180. (2) Use of the equation produced many estimated mean IQ's, of which the fol-

lowing are especially significant: national college freshmen, 113; freshmen in highest and lowest colleges reporting to A. C. E. (1937), 133 and 100; teachers colleges, 109; 90th and 10th percentiles of national population of college freshmen, 133 and 100.

CONCLUSIONS: (1) That college populations are highly selected in terms of IQ's but that there is tremendous range in the IQ's of those who take bachelor's and advanced degrees in various areas of study. (2) That colleges in 1940 attracted a relatively large proportion of high deviates in IQ but only a fraction of those in the general population who were of generally superior mental ability as measured by IQ. (Slides)

10:15 AM The comparative achievement of veteran and non-veteran students in college. *William B. Schrader and Norman Frederiksen, Educational Testing Service, Princeton.*

This study was made possible by funds granted the Educational Testing Service by the Carnegie Corporation.

PROBLEM: To determine whether or not veteran students show higher college achievement, in relation to aptitude, than non-veteran students. Further plans include attempts (1) to relate differences in achievement to biographical data and attitudes reported in a questionnaire, and (2) to compare veterans who were enabled to go to college by the GI Bill and those not needing these benefits.

POPULATION: This report is based on 3,756 students in five colleges. (Eleven thousand students in sixteen colleges are included in the entire study.) These institutions were chosen to represent various geographical regions, private and public institutions, coeducational and men's colleges, and schools of liberal arts, engineering, and agriculture.

PROCEDURE: For analysis, the population was divided into six groups homogeneous with respect to institution, curriculum, and date of entrance. (Twenty-seven such groups are included in the entire study.) Veteran and non-veteran students were compared, using analysis of covariance techniques which provide significance tests for differences in errors of estimate, in slopes of regression lines, and in residual achievement after adjustment for differences in aptitude.

RESULTS: Results of the analysis for each of the six groups will be presented in terms of the probability that differences in errors of estimate, slopes, and residual achievement might have occurred by chance. The criterion was freshman average grade; the predictors included measures of high school success and entrance test scores.

CONCLUSIONS: Differences between male veterans and male non-veterans in residual achievement are consistently small. These differences are in favor of the veterans in the majority of the comparisons. (Slides)

10:30 AM Relationship of scores on West Point qualifying tests to later course grades. *Edmund F. Fuchs, Personnel Research Section, AGO.*

PROBLEM: To evaluate the effectiveness of a screening test in selecting from the applicants for admission to the West Point Military Academy those most likely to be successful in the academic course of study.

POPULATION: Three forms of the screening test were administered to three classes on admission to West Point. The total population involved is 2549. The number of cases involved in specific relationships varies from 84 in one class in a foreign language to 977 in one class in the common subjects of Mathematics and English.

PROCEDURE: Several alternate forms of a specially developed test, consisting of a subtest in artificial language usage in mathematical ingenuity, were administered entering classes at West Point Military Academy. Correlations between part and total tests scores were computed as predictors of course grades and over-all academic average.

RESULTS: 1. Scores on the total test predict grades in specific courses almost as well as the scores on the favored sub-test. 2. Correlation coefficients tend to become smaller for the more advanced college courses. 3. Correlation coefficients are highest for mathematics, next highest for English, and most variable for specific foreign languages.

10:45 AM Institutional standards as a factor in the validity of a scholastic aptitude test. *Herbert S. Conrad, Educational Testing Service, and Joseph M. Miller, Queens College.*

PROBLEM: To what extent does the validity of a college-aptitude test vary according to the type of institution in which it is employed?

POPULATION: 4300 first-term, male freshman students classified according to the institution attended, as follows: 941 attending 9 engineering schools; 1790 attending 17 universities; 199 attending 2 agricultural and mechanical colleges; 1145 attending 16 colleges; and 225 attending 4 teachers' colleges. A further sub-classification was made according to presence or absence of a chapter of Sigma Xi at the institution (24 institutions had such a chapter; 24 did not). All students took the same scholastic aptitude test, all were following the same nominal curriculum, all were assigned on average semester-grade on a 10-point scale, and all later took the same comprehensive achievement test.

PROCEDURE: For each of the 48 institutions separately, the correlation was computed between the scholastic aptitude test and the two criteria of average semester-grade and comprehensive achievement test score. Coefficients were then averaged for each class or subclass of institution.

RESULTS: Substantially higher validity coefficients were found, on the average, in the engineering schools, uni-

versities, and agricultural and mechanical colleges than in the colleges or teachers colleges; and in the Sigma Xi institutions than in the non-Sigma Xi.

In general, the higher the average aptitude-test score of students in a given type of institution, the higher was the average validity coefficient.

CONCLUSIONS: The higher validity of the scholastic aptitude test in the type of institution with superior standards probably reflects the superior accuracy of grades in this type of institution. Other possible factors include: better academic motivation of students; superior curriculum; and superior teaching. Institutions with superior standards attract superior students, who in turn encourage the maintenance of superior standards.

ACKNOWLEDGMENT: This study is based on records from the Bureau of Naval Personnel.

11:00 AM Opinions of subordinate enlisted men as measures of supervisor job proficiency. *Stanley C. Markey, Personnel Research Section, AGO.*

PROBLEM: This study was made to determine: (a) The feasibility and methodological problems of obtaining in a military situation, enlisted men's opinions of their duty supervisors. (b) A usable technique for evaluating the opinions in terms of supervisors' job proficiency. (c) The reliability and validity of such a criterion measure.

POPULATION: Approximately 800 short essays by subordinates expressing their opinion of the work of their 375 supervisors were procured from food service personnel at eight Army installations. Subordinates ranged in grade from private to master sergeant; supervisors from sergeant to master sergeant.

PROCEDURE: A simple, single page form, Opinion Survey, was developed which listed seven guide questions for the subordinate in evaluating his supervisor. The subordinate was unidentified. No limit on time was set for completing the form although usually less than 20 minutes was required.

RESULTS: Subordinates' opinions were independently scaled by three research analysts into five rater defined classes reflecting the degree of supervisor proficiency expressed. Preliminary rater reliabilities for single installation samples vary from .78 to .89.

Factors affecting reliability such as length and number of opinions for each supervisor, grade of supervisor and subordinate were investigated. An indication of the validity of the opinion ratings will be presented by correlation with other criterion ratings by the supervisors' peers available for a part of the population, and with the results of an experimental efficiency report for enlisted men.

James H. Burke and Joel T. Campbell collaborated in the experiment.

11:15 AM The effect of supervisor's rank, specialty and sex upon the ratings of professional women. *Hyman Brandt, Personnel Research Section, AGO.*

PROBLEM: To investigate the effect of the supervisor's rank, specialty and sex (as well as the rater's own rank and specialty) upon performance ratings based on assignments of thirty days or longer.

POPULATION: More than 1500 women medical specialists have been screened for the Regular Army. One of the instruments, the Evaluation Report, was completed by three to six supervisors who had intimate knowledge of the applicant's performance. This instrument, assaying both professional competence and personal characteristics, combined the forced choice technique and special rating scales. In addition, scores on a Biographical Information Blank and on an Interview Blank were secured for each ratee.

PROCEDURE: Correlational techniques are being employed and analysis of variance and covariance will be made. The latter will disclose sources of variability and their respective significance with respect to the ratings: (1) obtained from supervisors of varying rank, specialty and sex, (2) received by ratees of varying rank and specialty and (3) assigned to both the parts and the total Evaluation Report. These groupings will be used to ascertain the effect and the relationships between ER and BIB scores and interview ratings.

RESULTS: As a result of the analyses, answers to the following will be obtained:

- (1) Do supervisors of a given rank, specialty or sex, favor certain ranks or specialties of ratees?
- (2) Do certain supervisors use particular sections of all or certain rating scales exclusively?
- (3) Are certain ratees rated more highly on all or particular trait scales?

The collaboration of Kenneth R. Wood is gratefully acknowledged.

TEST VALIDITY AND RELIABILITY

11:40 AM, Saturday, Parlor A

Volunteered papers selected by the division

GEORGE K. BENNETT, Chairman

11:40 AM How valid is the Flesch readability formula?

Alberta S. Gilinsky, Tufts College.

PROBLEM: To test the validity of the Flesch readability formula against a scale of judged readability.

POPULATION: Fifteen literate college students.

PROCEDURE: Thurstone's "method of equal-appearing intervals" for attitude scale construction was used to establish a criterion of validity. Seventy-five samples of establish a criterion of validity. Seventy-five samples of prose from various sources, including pulp fiction and technical treatises, were rated for reading ease. The median judged values were correlated with 'Flesch counts' (based on both original and revised formulas) on these samples. To avoid the objection that judgments do not dissociate difficulty of subject matter from difficulty of language, a second series of prose samples based on the same subject was written to order by various members of the laboratory. Each sample described, in

the writer's usual style, a number of specific facts about rod and cone vision. Readability ratings of these samples were again obtained as a validity criterion for the Flesch index. Further work now in progress aims to show the relation between electrically recorded eye movements during reading and the difficulty of the material read, as measured by Flesch scores on the one hand, and judged difficulty on the other hand.

RESULTS: Validity coefficients are reported and interpreted for both phases of the study. Correlations between readability judgments and Flesch counts range from .61 to .84.

CONCLUSIONS: The results suggest that the Flesch formula is a highly valid index of readability. A reading difficulty scale has been constructed which should prove useful not only for writers but for research on reading and remedial training.

11:55 AM The constancy of item-test correlation coefficients computed from upper and lower groups.

Jerome E. Doppelt and Edith M. Polls, Psychological Corporation.

PROBLEM: The paper deals with the results of an empirical investigation into the relative constancy of item-test coefficients of correlation computed by using only the upper 27% and lower 27% of the cases.

POPULATION: Three successive sub-samples of 370 cases each were selected from applicants for admission to schools of nursing. Each subject had taken a General Information test and the three sub-samples were similar with regard to mean and standard deviation on this test.

PROCEDURE: Item-test correlation coefficients were computed for each of the three sub-samples and for the total group by means of the upper and lower 27% method. The coefficients based on the combined group of over 1000 cases were used as the criterion for picking items with item-test coefficients within seven selected ranges. For these items, the standard deviations of the coefficients based on the sub-samples were computed and compared for the selected ranges.

RESULTS: The mean values for the seven groups of coefficients range from .27 to .58. There is practically no variation among the standard deviations of the groups; the smallest standard deviation is .06 and the largest is .08. If allowance is made for variance due to grouping, the standard deviations are somewhat lower.

CONCLUSIONS: The method for computing item-test coefficients by using upper and lower 27% seems entirely satisfactory when there are 100 cases in each of the upper and lower groups. With this number of cases the standard deviations of the coefficients compare favorably with the standard errors of product-moment and biserial coefficients.

12:10 PM Determination of optimal test reliability in a battery of aptitude tests. *John T. Dailey, Lackland Air Force Base, San Antonio, Texas.*

PROBLEM: In an aptitude battery of finite length composed of homogeneous tests, how reliable should each test be in order to maximize the composite validity of the battery?

POPULATION: Air Force Enlistees.

PROCEDURE: With tests composed of homogeneous items, test validity and reliability vary concomitantly with the number of items, and varying the length alters both reliability and validity. Shortening the test decreases both its validity and correlation with any other test by the same proportion. Thus the decreased validity is partially offset by decreased correlation with the remainder of the battery. The real criterion for determining optimal test reliability (and hence length) is the amount that each test contributes to the multiple validity. Items should be added to a given test only if their addition will increase the multiple validity more than would the addition of a similar number of items of a different type. Procedures are presented for determining when to cease adding items to each test in the battery.

RESULTS: It is demonstrated that as homogeneous items are added to a given test, the amount each successive item adds to the multiple validity falls off sharply. Thus the last items of a long test of highly valid items may add less than the first items of a much less valid type. Both theoretical and empirical results are presented to illustrate a method of approximating optimal test length and reliability.

CONCLUSIONS: While individual items should be as reliable as possible, it is very inefficient to utilize with reliabilities in excess of .60 if they are to be used only in weighted composites. Only rarely will types of items be

valid enough to justify including more than 15 or 20 in a given battery. Using tests of optimal reliability may substantially increase the multiple validity of a battery of fixed length.

12:25 PM Validation of some handwriting scales against personality inventory scores. *Maurice Lorr and Jacob V. Golder, Veterans Administration.*

PROBLEM: To validate a series of handwriting scales developed by Lewinson and Zubin against unitary personality traits based on factor analyzed self-inventories.

POPULATION: A group of approximately two hundred graduate student volunteers were used as subjects in this study.

PROCEDURE: The subjects were asked to write as a test of imagination a full page story on a standard sheet of unruled bond paper when presented with a Thematic Apperception Card. A specially prepared personality questionnaire consisting of selected items with the largest loadings on nine factors isolated by the Guilfords, Mosier, Reyburn and Taylor, and Thurstone was then administered. Samples of handwriting drawn from each sheet were analyzed and rated for fifteen variables by means of the Zubin Scales. The handwriting ratings were then intercorrelated with the inventory scores and the resulting correlational table was analyzed to identify the outstanding clusters of variables.

CONCLUSIONS: The significant intercorrelations of the handwriting and questionnaire variables will be presented and discussed in the light of previous studies. The meaningful clusters of variables identified will be described and interpreted.

DIVISION OF PHYSIOLOGICAL AND COMPARATIVE PSYCHOLOGY

All programs and symposia are sponsored jointly with the Division of Theoretical-Experimental Psychology.

See pages 235-256

DIVISION ON CHILDHOOD AND ADOLESCENCE

PRESIDENTIAL ADDRESS

1:40 PM, Tuesday, Parlor A

Florence L. Goodenough: Methods of Appraising Child Personality with Particular Reference to Projective Techniques

Business meeting: HAROLD H. ANDERSON, Chairman

BEHAVIOR IN EXPERIMENTAL PLAY SITUATIONS

8:50 AM, Wednesday, Salle Moderne

Volunteered papers selected by the division

WILLARD C. OLSON, Chairman

8:50 AM A comparison of the social behavior of deaf and non-deaf pre-school children in an experimental play situation. *Grace M. Heider, University of Kansas.*

PROBLEM: To investigate the ways in which the language limitations of young deaf children affect their social behavior.

POPULATION: 132 non-deaf children, ages 2:5-4:1, and 96 deaf children, ages 2:11-7:2, from four different memory school groups.

PROCEDURE: The experimental situation was a competitive one in which a ball was sent through a spiral trough in a screened box. The apparatus, which was designed so that it could be used by only one child at a

time, was presented to pairs of children for fifteen minute periods. Records were kept by quarter minutes of what went on between the members of each pair and the sequence of shots was tabulated.

RESULTS: 1. With the non-deaf there was a much greater tendency for one member of a pair to dominate a game; with the deaf the two members played more nearly on equal terms. This difference showed both in the descriptive records of behavior and in the distribution of shots.

2. When the games were classified according to degree of structurization it was found that 62% of those played by the non-deaf and only 25% of those played by the deaf children fell into the more highly structured types.

CONCLUSIONS: Differences between games of deaf and of non-deaf children could be explained partly by the more effective ways in which the non-deaf children used language to gain control of the situation without provoking the partner to attack or to withdraw. These differences indicate that the social environment of the deaf child is in many ways more diffuse and less sharply oriented than that of the non-deaf and raises questions as to the effect of this environmental situation on the development of personality.

9:05 AM Behavior of young children in play interviews as related to the extent and quality of self-regulation of their early schedules. *Amy R. Holway, and Esther B. Frankel, Merrill Palmer School.* (Abstract exceeded 300-word limit)

9:20 AM Measurement of dependency and aggression in doll play. *Pauline Snedden Sears, University of Iowa.*

PROBLEM: Development of a method by which succorant and nurturant forms of dependency and two types of aggression can be identified and measured in a standardized doll play situation with young children.

POPULATION: A preliminary group of thirty preschool children, and an experimental group of 45 children, approximately half of each sex, ranging in age from 3-5 to 5-2 years, white, the majority from middle class families.

PROCEDURE: Categories relating to succorance and nurturance were derived from a theoretical analysis of the necessary consequences of parent-child relationships. These were revised by being applied to the doll play of a group of thirty children. The final set of categories had a satisfactory degree of observer reliability. They were then used to record the play of the experimental group during two experimental sessions, the duration of which varied for individual children but each of which provided approximately twenty minutes of non-tangential doll play.

RESULTS: Dependency responses were defined for these purposes as including: (1) succorance: help is solicited or a need is expressed with the implication that help is re-

quired; (2) nurturance: direct, personal help, protection or care is given another; (3) mutual affection: two or more dolls are made to show affection mutually; (4) mutual companionship: two or more dolls perform an activity with a companionship goal; (5) loving or approving statements are made about a doll.

Aggression responses were classified in two chief sub-groupings: (1) stereotyped aggression: within normal limits, conventional; (2) nonstereotyped aggression: outside normal limits, fantastic.

The use of the method will be discussed in terms of the sex and age differences obtained in the various measures. Lois Jean Carl and Eleanor Hollenberg assisted in the experiment. (Slides)

9:35 AM A comparison of children's fantasies in two educated projective techniques. *John Elderkin Bell, Clark University.*

PROBLEM: The present study attempted to compare systematically the fantasies produced by young children on a verbal level in a picture story situation and on a motor level in an equated doll play situation. The purpose was two fold: to demonstrate a methodology for the comparison and the normative application of projective methods, and to evaluate a revision of a projective picture set proposed by Amen.

POPULATION: The subjects for both tests were thirty intellectually superior children, five, seven, and nine years of age, equally divided between the sexes.

RESULTS: The results were based on the comparison of the themas elicited, the affective values to the subjects of the stimulus areas presented, and the age and sex differences in responses in the two techniques.

1. More responses were given to the doll play situation, but a larger percentage of these were non-thematic.

2. Both techniques elicited a large percentage of responses which were concerned with the reenactment of social situations, but there were significant differences between the techniques in the incidence of various strongly affective thema.

3. Clinical psychologists succeeded in "blind matching" of the protocols from the two sets.

4. There was a positive correlation between psychologists' rankings on selected personality traits revealed by the protocols and teachers' rankings on these same traits based on behavior observations.

5. The group of seven year old children responded more emotionally than the five and nine year old groups.

CONCLUSIONS: The picture story method evoked essentially the same personality pictures as those stimulated by the doll play technique, although the level of the fantasy brought out by the two methods differed. The projective methods were amenable to quantitative analysis and normative study. (The research was carried on cooperatively with Vera A. Simpkins, Clark University.) (Slides)

CHILDHOOD AND ADOLESCENCE

10:00 AM, Wednesday, Salle Moderne

Volunteered papers selected by the division

LEONARD CARMICHAEL, Chairman

10:00 AM Effects of cup, bottle and breast feeding on oral drive of newborn infants. *Robert R. Sears, University of Iowa.*

PROBLEM: To determine whether the amount of oral stimulation during feeding influences the strength of the sucking reflex and the frequency of spontaneous oral activities.

POPULATION: Sixty fullterm newborn white infants, born in the Department of Pediatrics, Kansas University Medical Center, Kansas City, Kansas.

PROCEDURE: Twenty babies were fed by breast, twenty by bottle, and twenty by cup during the first ten days of life. The duration of the sucking response to manual stimulation was measured twice daily. Three categories of spontaneous oral activity were observed by a time-sampling method four times daily, 100 seconds per time. Amount of crying was measured during three thirty minute periods daily. Appetite was judged on a three-point scale at three of the six daily feedings.

RESULTS: 1. Average duration of the sucking response, to test, did not change during the ten days in the bottle or cup fed groups, but increased steadily in the breast fed group.

2. The three groups did not differ in frequency of spontaneous oral activity, including thumb-sucking.

3. There were no significant differences between groups in amount of crying.

4. The breast fed group showed poorer appetite during the first three days than did the other two groups.

CONCLUSIONS: The data can be evaluated with reference to the question of how much the oral drive of infancy is influenced by experience. Breast feeding provides an ideal learning situation for the development of a secondary drive based on the sucking response (instrumental act) followed by primary drive reduction (hunger). The breast fed group's increase in strength of sucking response suggests that the oral drive is increased by breast feeding; a question must be raised as to whether the so-called oral component of the libido is not in part a result of feeding by a nearly universal method that requires the child to suck and be orally stimulated while securing primary gratification. (Slides)

10:15 AM Social change in the beliefs of adults concerning parent-child relationships. *Dale B. Harris, University of Minnesota.*

PROBLEM: To estimate attitude changes which had occurred in important areas of human relations within the last sixteen years— a period which has seen major changes in material and social culture.

POPULATION: Small groups of adults, selected to represent varying social backgrounds.

PROCEDURE: Certain of C. C. Peters' attitude scales relating to lovemaking, democratic attitudes and practices, and the treatment of children by parents as used in 1930, are being repeated, unchanged, with a variety of homogeneous social groups. The statistical analysis follows that used in the original study.

RESULTS AND CONCLUSIONS: In this paper only the results pertaining to relations of parents and children are reported. It is feasible, within certain broad limits, to study social changes in adult-child and other relationships through the medium of standardized attitude scales. Present day attitude toward children seem to be more liberal than those held fifteen or more years ago. There is a suggestion that present day social groups may be more homogeneous in attitude than social groups of the former period. As in the previous period, differences within groups outweigh differences between groups.

10:30 AM Physical maturing among boys as related to behavior. *Mary Cover Jones, Nancy Bayley and Harold E. Jones, University of California.*

This report from the Adolescent Growth Study deals with two groups of boys in the same school grade, who fall at opposite ends of a normal distribution on assessments of skeletal age.

The two groups showed the greatest contrast in physical characteristics between the ages of 13 and 15. During this period the early-maturing were tall, strong, well-muscled and "masculine" in build. The late maturing were small, slender, poorly-muscled and "childish" in build.

Psychological data include observational records, by staff members, of social behavior and personal attributes in same-sex and mixed group situations. In psychological characteristics the greatest differences between the two groups occurred at ages 15 and 16.

Skeletally accelerated boys are considered by adults and classmates to be more mature and more attractive in appearance. They are accorded more status but do not strive for it. From their ranks come outstanding student leaders. The skeletally retarded boys exhibit relatively immature behavior and react to their temporary physical disadvantage by greater activity, by striving for attention, or by withdrawing.

Case material is used to emphasize the complexities involved in developing adjustment patterns, and to indicate some factors, in addition to rate of maturing, which influence the behavior of individual boys in the extreme groups. (Slides)

10:45 AM An evaluation of investigations of the effective teacher. *Paul Witty, Northwestern University.*

PROBLEM: To summarize and evaluate the results of studies of teacher efficiency in the elementary and the

secondary school. Various definitions of teaching efficiency will be compared. The results of statistical studies which have employed correlation techniques will be set forth. Qualitative studies which have utilized pupil evaluations will also be appraised. Finally, data from 35,000 letters written by pupils on the topic "The Teacher Who Has Helped Me Most" will be presented to reveal the characteristics admired and disliked in elementary and secondary school teachers. Different approaches to the study of teacher efficiency will then be evaluated, and an effort will be made to set forth the present status of the problem.

POPULATION: New data from 35,000 letters obtained in 1948 from pupils in grades I to XII.

PROCEDURE: Statistical analysis and comparison.

RESULTS: Study in progress, results available in September.

MENTAL DEVELOPMENT

11:10 AM, Wednesday, *Salle Moderne*

Volunteered papers selected by the division

ARNOLD GESELL, Chairman

11:10 AM Environmental influences on infant intelligence test scores. *A. R. Gilliland, Northwestern University.*

PROBLEM: To determine (1) differences in scores between infants reared in an institution and in private homes; (2) the effects of different types of homes; and (3) the types of test items on which differences occur.

POPULATION: Two hundred infants (more being added) of 6 to 12 weeks of age, half of whom have lived in an institution and the others in private homes.

PROCEDURE: The Northwestern Infant Intelligence Test, a new standardized test of 40 items with a split-half reliability of .87 and indications of a high validity was given to the above population. The placement institution accepts only healthy babies without serious hereditary defects. The average hereditary background is certainly as good as the lower half of the group from private homes.

The mean I.Q. of the institutional cases was 97.5 and for those from private homes was 109.5 (C.R. 3.—). Contrary to results with older children, economic status of the private homes had no effect on I.Q. On the other hand frequent and effective contacts with the social and physical environment did produce higher I.Q.'s. Infants with no better apparent hereditary background living in low income homes but with numerous contacts with a stimulating environment generally made above average scores.

A comparison of test items on which infants from private homes made higher scores than institutional infants showed that in 18 out of 40 a significant difference occurred. Half of these items dealt with adjustment to

the social and half to the physical environment. Tests of maturational changes showed no differences.

CONCLUSIONS: (1) Generally normal babies reared in a good institution do not make as high scores on an intelligence test as do those reared in private homes. (2) A stimulating social and physical environment produces high scores on an intelligence test. (3) These differences show on certain test items and not on others.

11:25 AM Mental test performance of siblings. *Joan Kalhorn, Fels Research Institute, Antioch College.*

POPULATION: Thirty-nine pairs of siblings, first and second child respectively, subjects in the Fels Research Institute's longitudinal study of human development. The children, ranging in age from 30 months to twelve years, have been tested at regular intervals on alternate forms of the Stanford-Binet. Seventy per cent of these pairs in the present sample have had five or more tests administered at the same chronological age.

PROCEDURE: Records used were of tests administered to pairs of siblings at the same chronological age. Each child in the pair, therefore, had had an opportunity to pass or fail a specified set of items at the same age as his sibling. Item comparisons were made to determine whether, on a given item, there was a tendency for the older child to pass whereas his sibling, tested subsequently, failed, and vice versa. The difference in I.Q. between each child and his sibling was analyzed test by test for each age level.

RESULTS: Significant differences were found in the performance of siblings on a variety of Binet items. Older siblings tended to excel on rather abstract items; the younger child revealed superiority on a numerically greater number of items, and particularly on those involving realistic performance tasks. Younger children also tended to surpass their siblings on total I.Q.

CONCLUSIONS: First children in a family tend to perform intellectually in a manner different from the next younger child. The present findings do not justify definite statements as to the origin of these differences, but it might be supposed that an important factor is the intellectual stimulation and companionship received by the first child who is surrounded by adults, and that the relative neglect experienced by the second child, combined with a less protective policy, permits him greater freedom to explore and develop his own capacities. (Slides)

11:40 AM Some factors which influence performance of children on intelligence tests. *Ernest A. Haggard, Allison Davis, and Robert J. Havighurst, University of Chicago.*

PURPOSE: To investigate the effects of the following factors on children's performance on intelligence tests: (a) social status (upper-class, lower-class), (b) practice (motivated, unmotivated, absent), (c) motivation during retest (present, absent), (d) the form (traditional-type,

revised), and (e) manner of presentation (silent, oral) of the test.

POPULATION: 656 11- and 12-year-old children were tested. Half were upper-class, half lower-class. Each social status group was matched on age, school grade, and IQ.

PROCEDURE: Factorial design was used to study the effects of the variables and their interrelations. There were 28 separate groups, with from 17 to 39 children in each group. The Johnson-Neyman method of testing linear hypotheses was used to analyze the data. The experiment covered a five-day period, one hour per day: (a) Day 1, initial test, (b) Days 2-4, practice period, (c) Day 5, retest. On Day 5, two forms were given, one traditional-type and one revised to minimize "cultural bias." In addition, some children had the tests read to them. The tests contained 40 items.

RESULTS: Our findings include the following: (a) "Cultural bias" was removed successfully from some items, (b) Upper-class children gain more from practice on the traditional-type, but not on the revised items, (c) Lower-class children profited more from motivated retest when given the traditional-type form, (d) Both class groups profited from the revision, the lower-class children more, (e) Lower-class children profited more from oral presentation of the items, (f) With all factors considered, lower-class children showed more overall gain in performance from test to retest, indicating their ability to learn from experience, and (g) traditional-type items were more influenced by such factors as motivation and practice.

CONCLUSIONS: Traditional-type items contain sufficient "cultural bias" to penalize unduly children from lower-class backgrounds. Such items can be improved to be more nearly fair to all social status groups. (Slides)

11:55 AM Socio-economic status and performance on the A C E of Negro freshman college veterans and

non-veterans, from the North and South. S. O. Roberts, *Fisk University*.

PROBLEM: The purpose of this study was to investigate the performance on the A C E of comparable groups of Negro college males in terms of socio-economic status, veteran status, and regional origin.

POPULATION: The subjects were 253 college freshman, 1945-1947 inclusive. One hundred and forty-one (141) had served in World War II and 112 were entering college without war experience. Twenty per cent of the subjects were from the North and 80 per cent were from the South.

PROCEDURE: Parental occupations were classified according to the Minnesota Occupational Scale. All were given the A C E upon entrance. The scores were then cross-analyzed by socio-economic status, veteran status, and regional origin.

RESULTS: Subjects with fathers in the upper socio-economic levels, whether veteran or non-veteran, did better on the A C E than subjects with fathers in the lower levels. Non-veterans, even when matched with veterans for socio-economic status, had the higher score. The differences were greater and more significant between comparable groups from the North and South than for any of the differences within a given geographic region. Differences on the basis of the socio-economic ratings of mothers' occupations were less pronounced.

CONCLUSIONS: These data tend to support the findings of previous investigations using female subjects. This outcome suggests clearly that regional origin is a factor that carries with it a superiority of performance on an intelligence test for which neither socio-economic status nor the possible broadening influence of serving in the armed services can compensate. Furthermore, these results seem to be against the general environmental hypothesis frequently advanced to account for the observed differences in unmatched samples.

Hurley H. Doddy collaborated in the study.

DIVISION OF PERSONALITY AND SOCIAL PSYCHOLOGY

SOCIAL INTERACTION

8:50 AM, Wednesday, Parlor A

Volunteered papers selected by the division

EUGENE L. HARTLEY, Chairman

8:50 AM The development and evaluation of a measure of social interaction. *Bernard Steinzor, Menninger Foundation*.

PROBLEM: A reliable and valid instrument based on the intent of verbal behavior could be developed and would be useful in the study of the small group process.

POPULATION: Selected electrically recorded sessions of six small groups: a graduate seminar, a leaderless free-discussion group, a discussion section of a larger class, a

therapy group and two problem solving groups provided the material for categorization and evaluation.

PROCEDURE: The developed instrument contained fifty possible subcategories which were a combination of 18 intents and three loci or direction of intents. The intents were given the labels of activate, structure, diagnose, evaluate, analyse, give information, seek information, clarify, defend, offer solution, conciliate, understand, give support, seek support, oppose, defer, conform and entertain. Three loci of degrees of self involvement were labeled the self, the group and the issue locus.

RESULTS: a) Reliability: The Chi-Square test and per cent of agreement among various pairs of judges were the indices used to determine how accurately others would use the instrument. The average judge's codings agreed

fairly well with the investigator's, though significant inter-judge variability on sessions as a whole, as well as on single categories, was found.

b) Validity: The investigator's codings were used.

1) Patterns of intents and loci for each group were compared with those of other groups. Statistically significant distinctions were found. 2) Ratios of various sets of intents were found to distinguish the groups. 3) Changes in these ratios among intents over a series of sessions for two groups could be consistently related to other observations made of the groups. 4) The expression of certain intents stimulated or failed to stimulate others in a significant manner. 5) Patterns of intents of members could be related to sociometric and observational data.

CONCLUSIONS: 1) The instrument can be accurately used by others with sufficient training.

2) The dimensions of intent and locus of intent seem to be significant ones in the group process.

9:05 AM A generalized procedure for constructing indexes of social assimilation. *Warren G. Findley, The Air University.*

PROBLEM: To develop a general formula for measuring equality of acceptance of individuals within a group.

POPULATIONS: Small groups of Air Force officers, educators, high school students.

PROCEDURE: In a paper presented at the 1947 meetings, a formula was developed for indicating on a scale from 0 to 100 the evenness of participation in discussion. More recently, a similar formula was developed to express in a single index the extent to which all the individuals in a school class were well assimilated into the group. This was based on data in which each child expressed preference for 3 classmates in each of 4 activities and in each of 12 situations.

RESULTS: 1) Index of Group Assimilation

$$= 100 \left[1 - \frac{nN}{(N-1)(N-1-n)} \frac{\sigma^2}{M^2} \right] \text{ or}$$

$$= 100 \left[1 - \frac{N\sigma^2}{nc^2(N-1)(N-1-n)} \right]$$

where N = number of children.

n = number for whom preference is expressed on a given count.

c = number of counts on which preference is expressed.

σ = standard deviation of frequencies with which individuals were chosen.

2) Application of the index to seven classes in a public school and to other groups indicates a linear scale can be established. Systematic variation with age and grade is explored.

CONCLUSION: A general index of the type $100 \left(1 - k \frac{\sigma^2}{M^2} \right)^h$

may be adapted to measuring equality of acceptance of individuals in groups. In each case k is the reciprocal of the value that takes on when a maximum dispersion results from the most extreme unevenness of acceptance of individuals within the group. Different values may be assigned to h in different situations to produce a linear scale of values of the index. The Index of Participation and the Index of Group Assimilation are special cases of a general type of index of equality of acceptance.

9:20 AM An analysis of the effect of individuals on seminar discussion. *Thomas F. Staton, The Air University.*

PROBLEM: To estimate the potency of an individual in a group discussion through analysis of his contributions.

POPULATION: Five seminar groups of ten officers each were studied, reorganized, and re-studied. Group members were drawn at random from the 750 students in the Air Tactical School of Air University.

PROCEDURE: The present study utilizes techniques devised in pilot studies conducted in the Air War College in 1947, and involves observation and sound recordings of ten Air Tactical School seminars, each composed of ten officers and running for two and one-half hours. Typescripts of each session were made from sound recordings and observers' notes. From these typescripts each officer's "pattern of participation" was derived, through synthesis of his statements into categories formulated and systematized in the pilot studies. At the conclusion of each session, each officer's effectiveness was rated by each other officer. Relationships were determined between the "potency ratings" thus obtained and the pattern of participation. Evaluations of conclusions of each seminar were made by Air Tactical School staff members, and the relationship between potencies of individuals and quality of seminar results was ascertained. The 50 officers were then reorganized into five new seminar groups, and the attempt was made to predict individual and group potency through utilization of techniques and instruments derived through analysis of the five original groups.

RESULTS: 1. An individual's pattern of participation was found to provide a significant index of his effect on seminar discussion, using potency ratings as criteria.

2. Substantial homogeneity in experience, ability, and rank of members appears to make for good procedure and conclusions in a seminar.

CONCLUSIONS: 1. Potency of influence of individuals in a group discussion can be estimated by comparison of their discussion statements with member-approved patterns of participation.

2. One factor in optimum seminar conditions is that participants should be generally comparable in ability and prestige.

9:35 AM The real consequences of human actions as a

neglected factor in certain types of social behavior.

Alexander Mintz, City College of New York.

HYPOTHESIS: The disastrous consequences of panics are explained in terms of the nature of certain situations in which cooperative behavior is easily disorganized and, once disorganized, loses its rewards for individuals; then a competitive situation develops which may lead to disaster. Thus at a theater fire it pays people not to push if everybody cooperates. If an uncooperative minority blocks the exits any person who does not push is practically certain to be burned; thus pushing becomes the adaptive form of behavior. This explanation is proposed as a substitute for the usual one in which the characteristic inefficiency of behavior in many social situations is explained by the social facilitation of emotion and similar factors.

PROBLEM: To provide illustrative material for the above hypothesis by means of experiments in specially designed miniature social situations.

POPULATION: About 25 groups of college students, ca. 20 students in each group.

PROCEDURE: A number of cones are placed in a bottle. Each subject is to take out one cone. Only one cone can come out at a time. The situation can be represented to a group as a game in which individuals can win or lose, or as a measure of their ability to cooperate. Behavior suggestive of emotion can be made freely recognizable or can be hidden by appropriate screens.

RESULTS: In the large majority of cases, groups instructed to cooperate could get all cones out of the bottle rather quickly. When instructed to play a game, almost all groups created "traffic jams" preventing the taking out of any or most of the cones. Excited screaming in the group etc., had little effect on the results.

CONCLUSIONS: The experiments gave the expected results thus contributing to a validation of the hypothesis. The hypothesis appears to apply to other social phenomena in addition to panics.

INTERGROUP RELATIONS

10:00 AM, Wednesday, Parlor A

Volunteered papers selected by the division

MARIE JAHODA, Chairman

10:00 AM Tolerance toward ambiguity as a personality variable. *Else Frenkel-Brunswick, University of California.*

Gestalt psychology was accused of morbidity, by the Nazi psychologist Jaensch, for emphasizing the ambiguity of perception. Study of interviews with 100 adults extremely high or low on acceptance of directly expressed ethnic prejudice (Berkeley Public Opinion Study) and with 200 similarly selected 9 to 14 year old children (Institute of Child Welfare, University of California) further confirmed the writer in considering tolerance of ambiguity as a general personality variable relevant to

basic social orientation. However, it is the tolerant or judicious rather than the morbid person who shows greater readiness to accept diversities and ambiguities. Systematic ratings of the interviews with "liberal" adults and children show that their outlook cuts across national and racial demarcation lines and the barriers defined by sex-roles and dominance-submission patterns. The prejudiced are significantly more often given to dichotomous conceptions of the sex-roles, of the parent-child relationship, and of interpersonal relationships in general. They are less permissive and lean toward rigid categorization of cultural norms. Power—weakness, cleanliness—dirtiness, morality—immorality, conformance—divergence are the dimensions through which people are seen. The prejudiced also tend to show rigidity in their cognitive processes. There is sensitivity against qualified as contrasted with unqualified statements and against perceptual ambiguity; a disinclination to think in terms of probability and a favoring of black-and-white stereotypes; a comparative inability to abandon mental sets in intellectual tasks, such as in solving mathematical problems, after they have lost their appropriateness. Relations to home discipline and to the ensuing attitude toward authority will likewise be demonstrated quantitatively.

10:15 AM The movie story game: a projective test of interracial attitudes for use with negro and white children. *Isidor Chein, Commission on Community Interrelations, and Mary C. Evans, New School for Social Research.*

The Movie Story Game was designed to measure two aspects of attitude of Negro and white children: preference for segregated situations and stereotyped thinking. The children are told that material is being collected for childrens' movies, books and stories.

The materials used are two "movie sets": a playground set and a living room set; and twenty-two miniature standing figures: ten white boy and girl figures, ten dark-colored boy and girl figures to represent Negro children, and a white and dark-colored mother figure. The children are asked to provide action and dialogue for 28 standardized story situations through the "main character", a figure of like sex and color as the interviewee. The story situations require the main character to select for games and parties figures identified variously as friends or strangers; to explain the good and bad behavior of members of the other ethnic group; and to respond verbally and behaviorally to the prejudiced behavior of a member of his own group.

At the completion of this projective interview, the interviewee is asked in which of ten other situations he would include or exclude the other ethnic group and to what extent he himself has had contact with members of the other ethnic group.

Test data on the original form of the test will be pre-

sented for 101 Negro and white children, eight to fourteen years of age, and on a revised form for fifty white children, seven to ten years of age.

General features of administrative and scoring procedures and problems of interpretation will be reported. (Slides)

10:30 AM Customer reactions to the integration of negro sales personnel. *Gerhart Saenger, New York University.*

PROBLEM: As the result of recent legislation New York department stores began hiring Negro sales clerks. A study was made to ascertain (1) to what extent this would lead to customer resistance, (2) whether pre-judicial attitudes, disapproval, would lead to discriminatory behavior.

PROCEDURE: A random sample of 256 customers was observed without their knowledge while dealing with Negro or adjacent white sales clerks in the stores, and interviewed an hour later concerning their general attitudes, approval of Negro employment on different skill levels, awareness of and reactions to Negro clerks.

RESULTS: Although more than half of the population showed varying degrees of prejudice and a smaller proportion explicitly disapproved of Negro clerks, there was no correlation between prejudice or disapproval and buying behavior, e.g., leaving the store or turning to a white sales clerk. Failure to translate prejudicial attitudes into action resulted from (1) ambivalent feelings about discrimination, (2) a conflict between the desire to act out one's prejudice and the desire to buy cheap and conveniently, (3) the tendency to accept social innovations apparently sanctioned by the population and introduced without previous announcement (*fait accompli*). Prejudicial attitudes also affected perception. Persons opposed to Negro sales personnel exposed to colored clerks failed to perceive their color or failed to recall having seen Negro clerks, and were thus prevented from realizing inconsistencies between attitudes and behavior. Finally there was evidence that exposure to Negro clerks tended to reduce prejudice.

CONCLUSION: In the situation described prejudicial attitudes do not lead to expected discriminatory behavior. Opinion and attitude surveys prior to their initiation would thus have failed to predict public reaction to Negro employment as sales clerks.

Emily Gilbert collaborated in the observations of this study.

10:45 AM An experiment in training volunteer trainers. *John Harding, Commission on Community Interrelations.*

Previous research has shown that skilled group workers can train lay people to answer public anti-minority remarks in a reasonably effective fashion. The two problems with which this paper will deal are: (1) Can similar

results be achieved by volunteer trainers who have not had such professional preparation? and (2) What procedures are needed to train the volunteer trainers for their work?

Subjects for the experiment were ten volunteer trainers, each representing a group of people who wanted to be trained in methods of answering anti-minority remarks. The groups varied in size from four to twenty members. Two were church groups, two were student groups, one was a veterans' group, and five were women's groups.

The volunteer trainers attended a 16 hour training institute spread over a period of five weeks. They proceeded to give their groups a seven hour training course modeled on the course developed and used by the group workers in our previous experiment.

Three types of measurement were made in the training institute and in each of the training courses: (1) Observations recorded during the training sessions by observers selected and trained for this purpose, (2) reports made at the end of the training period by trainers and trainees, (3) reactions of trainees in "test incidents" which were arranged at the beginning and at the end of the training courses to give them an opportunity to demonstrate the extent of their ability to answer anti-minority remarks.

These criteria will be used to compare the effectiveness of the volunteer trainers with each other and with the group workers in our previous experiment. The findings will be discussed with reference to the general problem of the development and communication of social skills.

PRESIDENTIAL ADDRESS

8:50 AM, Thursday, Assembly Room

Gardner Murphy: The Planning of Research in Social Psychology and Personality Study
Business meeting following

LEADERSHIP

11:10 AM, Thursday, Assembly Room

Volunteered papers selected by the division

DORWIN CARTWRIGHT, Chairman

11:10 AM The dependence of the effect of the group on the individual upon the character of the leadership. *Roy K. Heintz and Malcolm G. Preston, University of Pennsylvania.*

PROBLEM: 1. To ascertain the relative efficiencies of 2 leadership techniques as factors in shifting preferences. 2. To devise a procedure for the study of leadership suitable for use in laboratory courses.

POPULATION: 83 college students, male and female, enrolled in lab sections, Psychology of Education courses. 160 non-college adults, largely employees of United Parcel Co.

PROCEDURE: 1. All subjects ranked 12 potential presidential candidates in order of personal preference.

2. Subjects were divided into groups of 4 or 5. Each elected a leader, who was coached to proceed in (a) a democratic, or (b) a supervisory manner, for the formulation of a group ranking.

3. All subjects then prepared individual re-rankings. Mean correlations were calculated for each of 4 experimental subgroups between (a) initial and group ranks, (b) group and final ranks, and (c) initial and final ranks (utilizing Z transformations based upon Rho's).

RESULTS: Correlations between group and final rankings disclose that final rankings of participatory followers bore greater resemblance to participatory group rankings than did final rankings of supervisory followers to the supervisory group rankings. Similarly, final rankings of participatory leaders showed greater similarity to participatory group rankings than did the final rankings of supervisory leaders to the supervisory group rankings. Other comparisons show that the final rankings of both participatory followers and participatory leaders bore less relation to their own initial rankings than did the final rankings of supervisory subjects (both followers and leaders) to their own initial rankings.

CONCLUSIONS: 1. A leadership program which utilizes a participatory approach is shown to alter preferences to a greater extent than a program utilizing supervisory procedures, in the direction of group-defined preferences.

2. Reliable differences can be secured with very brief instruction of leaders.

3. A procedure for the laboratory-class study of leadership has been demonstrated to be workable. (Slides)

11:25 AM Leadership and its prediction from several levels of performance. *Launor F. Carter, University of Rochester.*

Recently considerable interest has centered on the "leaderless group" technique of assessing leadership and in some programs it has replaced the more traditional testing procedures. In the research to be reported, the same subjects have been assessed at three levels of performance. The subjects were 100 high school senior men, selected in equal numbers from two large schools. First, the leadership experience of each boy was rated by two raters in each school, and by the boys themselves using the nominating technique. The actual performance of each boy was also determined by ascertaining the number of "leadership positions" he had held. The second step in the research employed three "leaderless group" situations in which one boy from each school worked as a member of a pair on three different miniature work tasks. The work-tasks were chosen to represent respectively intellectual, clerical, and mechanical-assembly situations. Finally, each boy took a six-hour battery of paper-and-pencil ability, aptitude and personality tests. The results are analyzed in terms of the intercorrelations between the different measures mentioned in

each of the three steps outlined above. Miss Mary Nixon has been an active collaborator in this work. (Slides)

11:40 AM Group interaction in a learning situation. *Herbert Gurnee, Arizona State College.*

PROBLEM: To measure the effect of collective action when two groups of human subjects react simultaneously to a situation for which they have previously acquired different patterns of response.

POPULATION: Fifty-six college freshmen of both sexes, divided into two equal groups.

PROCEDURE: Each group was given six trials with a bolt-head maze; reactions were collective, by acclamation, and the majority vote was contacted after each trial. The pattern of correct boltheads differed at certain choice-points for the two groups. Individual responses were obtained after the sixth trial. The groups were then combined and reacted collectively for ten more trials; majority votes were recorded but *not* contacted, thus learning in these trials had to come entirely from the group. Individual responses were recorded after trials ten and sixteen.

RESULTS: On choice-points which were identical for the two groups, a significant decrease of errors occurred during the combined trials. Social facilitation was thus indicated. On choice-points which differed for the two groups, the effect varied from one group to the other: over thirty per cent of Group A's responses shifted to the Group B pattern, whereas only four per cent of Group B's responses shifted to the Group A pattern. Among the variables related to the difference, leadership seemed to be the most significant.

CONCLUSIONS: Social facilitation occurs in the acquisition of community patterns and in the resistance of such patterns to out-group pressures. Degree of facilitation in both respects seems to be largely a function of leadership variables. (Slides)

SYMPOSIUM: TRAINING AT THE PROFESSIONAL LEVEL IN SOCIAL PSYCHOLOGY

1:40 PM, Thursday, Ballroom

Jointly organized with the Society for the Psychological Study of Social Issues

RONALD LIPPITT, Chairman

Participants: Theodore Newcomb, J. Harding, Clarence R. Carpenter, Wayne Dennis

SYMPOSIUM: CLINICAL PRACTICE AND PERSONALITY THEORY

8:50 AM, Friday, Ballroom

SAUL ROSENZWEIG, Chairman

Jointly organized with the Division of Clinical and Abnormal Psychology

Participants: D. W. MacKinnon, A. W. Combs, G. S. Klein

SYMPOSIUM: THE VALUE OF "SOCIAL ROLE" FOR INTERDISCIPLINARY SYNTHESIS

1:40 PM, Friday, Ballroom

S. STANSFELD SARGENT, Chairman

Paper: Theodore Newcomb

Participants: N. A. Cameron, R. Linton,
Roland Warren

PERSONALITY ASSESSMENT

8:50 AM, Saturday, Assembly Room

Volunteered papers selected by the division

DONALD W. MACKINNON, Chairman

8:50 AM The assessment of psychiatric aptitude from the TAT. *Robert R. Holt, The Menninger Foundation.*

PROBLEM: To devise and obtain preliminary validation for a method of assaying important aspects of psychiatric aptitude using the TAT.

POPULATION: 20 physicians who have finished internships and are seeking specialty training at the Menninger Foundation School of Psychiatry; and 10 recent graduates of the school.

PROCEDURE: 10 cards of the latest edition of the TAT were given with the usual instructions, stories being electrically recorded with the subjects' knowledge. The 10 graduate psychiatrists were subjects of intensive personality study as part of a larger research project in the assessment of neuropsychiatric professional personnel. Their stories were searched for aspects which were related to component abilities and qualities making up general psychiatric aptitude. The resulting list of 15 variables was validated by applying them to the analysis of the TAT's of the candidates who applied for entry to the July 1948 class of the MFSP. Each of these doctors had been given independent ratings on general psychiatric aptitude by three psychiatric interviewers, and by another psychologist on the basis of a battery of tests, not including the TAT. On the basis of these ratings, the 10 most and the 10 least psychiatrically adept of the 55 were selected by my colleague, Lester Luborsky, who did most of the testing; names and identifying data were concealed.

RESULTS AND CONCLUSIONS: Preliminary results indicate that an analysis of formal aspects of TAT productions—such as subtlety of motivations depicted, adequacy of heroes, clarity of story structure, fluency and appropriateness of verbalization—seems more fruitful for the present purpose than thematic (content) analysis. Results will be presented with conclusions about personality characteristics which seem to predispose to adequacy as a psychiatrist.

9:05 AM Standardized situations as a means of personal-

ity appraisal. *William F. Soskin, University of Michigan.*

PROBLEM: To study the contribution of standardized "Situation Tests" as part of a battery of procedures in personality appraisal, and the factor of rater differences as they effect this contribution.

POPULATION: (1) 128 male graduate students applying for training in the VA Clinical Psychology Training Program, and (2) nine of the 18 psychologists and psychiatrists who served as judges in the VA Assessment Project in the summer of 1947.

PROCEDURE: (1) In the fore-part of each of the six week-long periods subjects were studied by three judges (Team A) utilizing academic records, interviews, autobiography, objective and projective tests, and after team discussion each candidate was rated on a scale of 31 traits (Preliminary Pooled Rating, PPR). The following day Team A observed these subjects in four types of situation tests. The subjects were simultaneously observed in Situation Tests by Team B judges who had no previous information about the subjects. Team B members independently of each other rated each subject on the 31 traits. Subsequently Team A studied additional information and, by discussion, arrived at a Final Pooled Rating (FPR) for each subject on the 31 traits. These FPRs are used as the criterion against which Team B ratings were evaluated. (2) The ratings of nine judges from B teams were studied to discover whether differences exist in ability to rate from situation tests.

RESULTS: (1) Ratings based on Situation Tests only are significantly correlated (1% level) with FPR on all 31 traits. (2) In general the A-team's PPRs show a higher correlation with FPRs than do B-team ratings (from situation tests). This is not true on all traits, however. (3) Analysis of variance discloses differences significant at the 1% level both between B-team raters and between traits. When B-team raters are divided into a High and Low group, the two groups differ more in ability to rate so-called "genotypical" traits than in ability to rate so-called "phenotypical" ones.

9:20 AM The Army adaptation of the Minnesota Multiphasic Personality Inventory. *Mary A. Morton, Personnel Research Section, AGO.*

PROBLEM: To determine the predictive value of Army adaptation of the Minnesota Multiphasic Personality Inventory.

POPULATION: Two populations were used: 3456 enlisted men and 374 WAC applicants.

PROCEDURE: The Army adaptation of the Minnesota Multiphasic Personality Inventory, TC-8a, was administered to determine its value as a predictor of (1) rejection for Arctic assignment, (2) acceptance and successful completion of WAC basic training without evidence of maladjustment, and (3) of AWOL's and psychiatric referrals.

(1) Scores achieved on MMPI by candidates accepted for Arctic assignment were compared with those rejected upon recommendations of medical and other officers, (2) From 374 scores made by WAC applicants on the MMPI and on three other measures of personality, selection was made of scores of 59 WAC applicants who completed basic training with no evidence of maladjustment for comparison with those of 27 applicants rejected for WAC duty or identified as poor risks during basic training, (3) Scores made on MMPI during second week of basic training by 47 enlisted men who became AWOL's and 69 who became psychiatric referrals were compared with those for control groups.

RESULTS: Three scales of the MMPI proved highly significant as predictors of acceptance for Arctic duty. Seven scales predicted AWOL's and psychiatric referrals. As predictors of acceptance and successful completion of WAC basic training only 2 scales of MMPI were effective. None of the other three instruments proved significant.

CONCLUSIONS: When measured by the criteria available in this study, the Minnesota Multiphasic Personality Inventory is of demonstrated value for Army use. Further research is necessary to determine whether differential weightings will increase its predictive value for acceptance and success in the WAC.

This study was made with the collaboration of G. Hamilton Crook and Bruce Berman.

ATTITUDES

10:00 AM, Saturday, Assembly Room

Volunteered papers selected by the division

RICHARD S. CRUTCHFIELD, Chairman

10:00 AM Attitude stability and change; a re-interview study of the national population. *Angus Campbell, University of Michigan.*

PROBLEM: To what extent do the attitudes of individuals in the national population change over a period of months on questions of world affairs and to what extent are they aware of changes which occur?

POPULATION AND PROCEDURE: During 1946 and 1947 the Survey Research Center of the University of Michigan conducted a series of four national surveys of public opinion on issues of world affairs. In November 1947 a sub-sample of the respondents of these surveys was designated and an effort was made to locate and re-interview them. Four hundred and sixty-two persons were re-interviewed. Several questions which had been asked previously were asked again and in each case the respondent was asked whether he believed he had changed his attitude since the earlier interview.

RESULTS: Data will be presented regarding the extent of change in attitudes and the degree of awareness of these changes. Data concerning the reliability of report of personal items such as age, education, income, and occu-

pation will also be given. An analysis of the representativeness of the re-interviewed group will be made. (Film)

10:15 AM Restructuration of attitude following a national election: the *fait accompli* effect. *Sheldon J. Korchin, VA, Philadelphia.*

PROBLEM: In the months preceding a presidential election tension rises and opinions become crystallized as vote decisions are reached. This paper is an investigation of the course of partisan attitudes after the election, when the election of one candidate is an accomplished fact.

POPULATION AND PROCEDURE: During the last week of October, 1944, 2,564 persons, a representative sample of the civilian voting population, were personally interviewed by the field staff of the National Opinion Research Center. Shortly after the November elections 2,030 of these same respondents were reinterviewed.

RESULTS: Comparison of pre-election and post-election scales of intensity of attitude toward the major candidates reveals a significant shift after the election toward support of the winning candidate. Democrats became more intense in support of their candidate, Republicans moved toward neutrality, while those previously undecided moved in a pro-Democratic direction. Thus, the pre-election U-shaped distribution of intensity of support shifted in the direction of a J-curve. In general, the relative positions of respondents on the two scales remained unchanged. The less ego-involved voters of both parties tended toward more moderate post-election positions.

In addition to these post-election attitude changes there is evidence for longer term memory changes. This and other studies show increasing numbers of people each year remembering having voted for the victorious candidates of past elections. These two phenomena—the shift in intensity of support and the longer range memory changes—are considered to be related parts of a “*fait accompli* effect.”

CONCLUSIONS: These results support Cantril's contention that an “accomplished fact may shift opinion in the direction of acceptance.” This *fait accompli* effect is a characteristic of the American culture which lends stability to the American political system. Its operation is discussed in the light of the psychology of conformity behavior and of recent research in perception and memory.

10:30 AM Personal values as determinants of a political attitude. *M. Brewster Smith, Harvard.*

PROBLEM: An analysis of the circumstances under which personal values may become determinants of a political attitude.

POPULATION: A representative cross-section of 250 adult men in an urban New England community, interviewed at their homes in May, 1947.

PROCEDURE: The interview questionnaire explored systematically the respondents' attitudes toward Russia, and certain personality characteristics thought to be

associated with these attitudes. An open-ended question designed to get at the respondents' personal values was included. Two of the three most frequent categories of response to this question were selected as potentially relevant to attitudes toward Russia: *liberty* and *economic security*. For each of these categories, men who gave an answer so classified were compared with those who did not, in respect to their other responses.

RESULTS: The value of *liberty* was found to be related to attitudes toward Russia in some important respects, while no relationship was found in the case of *economic security*. Other data indicated major differences in the bearing of the two values for attitudes toward Russia: (1) In contrast with those who stressed some aspect of *liberty*, men who singled out economic security showed a narrower scope of interests. (2) The prevalent conception of Russia was that of a totalitarian dictatorship. Only a few of the men evidenced awareness of Russian social welfare policies.

CONCLUSIONS: Two conditions are suggested as necessary in order that one of a person's central values may influence his attitudes toward an object: (1) The value must entail a scope of interests broad enough to include the object. (2) The object must be conceived in such terms that it is relevant to the value.

10:45 AM Expectations and buying intentions of consumers. *George Katona, University of Michigan.*

PROBLEM: Among the psychological factors influencing economic behavior expectations play a major role. Both from the point of view of economics (theory of economic behavior and prediction of future developments) and psychology (analysis of formation of decisions) the following, possibly interrelated, questions arise: what is the relation of expressed expectations (and intentions or plans) to subsequent actions, and what is the origin of expectations?

POPULATION AND PROCEDURE: The problem was studied with respect to consumer expectations by means of large-scale sample interview surveys, repeated over three years and intended to determine both attitudes and financial facts (Surveys of Consumer Finances conducted by the Survey Research Center of the University of Michigan for the Federal Reserve Board). Expectations as to prospective income, prices, general economic developments, purchase of automobiles, other durable goods and houses, and savings were studied.

RESULTS AND CONCLUSIONS: Consumers do plan ahead with respect to certain of their activities. The larger the prospective purchase, the better indications of future purchases are the expressed buying intentions and of people's general economic outlook can be studied by determining their relation to buying intentions and prospective expenditures and savings. It appears that during the past few years some of those expectations exerted

a powerful influence, while others did not. Which is the case depends probably on the stability and origin of the expectations.

The study of the function and predictive value of consumer expectations is still in a developmental phase. Yet the results already obtained justify continuation of large-scale research and communication of preliminary findings to other groups. Specifically, it is no longer doubtful that intensive interviewing is a suitable method to attack psychological problems of economic dynamics.

PERSONALITY

11:10 AM, Saturday, Assembly Room

Volunteered papers selected by the division

R. NEVITT SANFORD, Chairman

11:10 AM The relationship of certain personality traits to errors and correct responses in several types of tasks among college women under varying test conditions. *Virginia M. Staudt, Notre Dame College.*

PROBLEM: This research was designed to investigate the following hypotheses: (1) A positive relationship exists between error-producing tendencies and personality characteristics related to maladjustment. (2) A negative relationship exists between correct responses and personality characteristics usually related to maladjustment. (3) There are changes in relationship between personality characteristics and errors under varying conditions of test administration.

POPULATION: 120 female college students.

PROCEDURE: Two cancellation tests and tests of Verbal Analogies and Arithmetical Operations were administered. Three forms of each test were used, Forms A and B being given under Normal conditions and Form C being given under varying experimental conditions, for which purpose the subjects were divided at random into three groups, Control, Accuracy and Tension. All subjects took an intelligence test, two perseveration tests and the Minnesota Multiphasic Personality Inventory (Group). Analyses were then made to determine the relationship of personality trait scores to the incidence of errors and correct responses under Normal conditions; and the change of such relationships under the different experimental conditions. In addition, a comparison of the correlation coefficients for errors and correct responses with personality traits was made. Finally, the data were analyzed in terms of the proportion of errors to the amount of work completed.

RESULTS AND CONCLUSIONS: (1) The more maladjusted the individual, as indicated by the Total Adjustment score, the more errors she made in habitual and more complicated perceptual tasks.

(2) The Neurotic and Schizophrenic Patterns, as measured in this study, correlated significantly with errors in

habitual tasks, such as addition and multiplication in the Arithmetical Operations Test.

(3) The Schizophrenic Pattern, as herein measured, is significantly related to errors of commission in tasks that are of a complicated perceptual nature.

(4) Perseveration was found to be a significant error-producing factor.

(5) There is little change of relationship between errors on relational and habitual material and personality traits under the different experimental conditions.

(6) Errors tend to be more significantly related to personality traits than correct responses are.

(7) The ratio of errors to items completed (E/C) is highly related to the number of errors (E) made on a test. Consequently, the partial analysis of the data in terms of the E/C ratio did not contribute appreciably to the results obtained by the use of the error scores alone.

11:25 AM Frequencies in certain categories of manifest content and their stability in a long dream series.

Calvin S. Hall, Western Reserve University.

A two-year dream diary consisting of every dream which could be recalled by the dreamer, an adult in his fourth decade, making a total of 200 dreams has been made available to the writer.

An analysis of certain features of the literal features of the dreams, e.g. dream characters, settings, and themes, will be presented and related to some propositions which have been formulated by Freud in his theory of the dream.

When the frequencies in the several categories for the 100 dreams of the first year are compared with the 100 dreams of the second year a high degree of consistency (reliability) is obtained. The incidence of the various types of themes, settings, and characters is practically identical for the two halves of the series in most instances, despite changes in the external circumstances of the dreamer during the two-year period.

The theoretical significance of these findings especially as they bear upon the stability of personality dynamics, and the implications they have for some assumptions underlying the use made of projective methods will be discussed.

11:40 AM Performance as a function of expressed and non-expressed levels of aspiration. *James A. Bayton, Howard University.*

PROBLEM: Two hypotheses are tested. (I) As aspirations become more specific there will be an increase in performance. (II) Expressing aspirations is associated with increase in level of performance.

Miss Doris E. Armstrong assisted throughout the experiment.

POPULATION: 79 male undergraduates randomly assigned to four groups.

PROCEDURE: The task was the Minnesota Rate of Manip-

ulation Test. Each of seven trials consisted of the placing test immediately followed by the turning test. Group I—No performance scores were given the Ss and no aspirations were obtained. Group II—fictitious performance scores were given after each trial but no aspiration instructions were given. Group III—fictitious performance scores were given and Ss set aspirations for succeeding trials but did not report them to E. Group IV—same as Group III but Ss reported aspirations to E. RESULTS: The rank order for rate of improvement during the first four trials was Group IV, Group III, Group II, Group I. Significant differences ($P = .05$) occurred, however, only between Groups I and III, and between Groups I and IV. There were no significant differences for rate of improvement in the last trials. The rank order positions (above) were maintained for mean performance on trials 3 through 6.

CONCLUSIONS: Establishing specific aspirations, whether expressed or non-expressed, creates more rapid learning in the early trials than occurs in a relatively unstructured learning situation (Group I). The other results are in the direction of the hypotheses but are not statistically reliable. It is suggested that the degree of ego-involvement created by the task affected the results. (Slides)

11:55 AM An approach to language behavior through a test of word meanings. *Henry S. Odert, Dartmouth.*

PROBLEM: To explore the usefulness of a new test of word-meanings as a tool for semantic analysis.

POPULATION: 548 tenth-grade students.

PROCEDURE: Subjects read five test sentences, each containing the same underlined word, and then judged, for each sentence, which of four "key" sentences was using the word most nearly in the same sense. Thus, each of five sentences using the word "good" was matched with one of four key sentences using the same word. Nineteen such groups of sentences were studied. The test was kept within the vocabulary of Basic English to minimize the influence of range of vocabulary. Results were analyzed for patterns of response within groups of sentences.

RESULTS: Subjects who selected different answers to one item tended to make consistently different answers to other items. Some students were more open than others to misleading suggestions from the structure and the content of sentences. Where two interpretations of a sentence in different contexts were possible, some students were more successful than others in selecting the more "probable" interpretation. Examination of other sentences in the test suggests the nature of these alternate interpretations. Responses to such words as "good," "may," and "is" will be used to illustrate the sorts of information about language behavior yielded by the test. DISCUSSION: Questionnaires similar in structure to this, with key sentences carefully selected for specific purposes, may furnish useful information on the development of

discrimination in meanings with age, and on what I. A. Richards refers to as the "interanimation of words." They may shed light on current generalizations about the influence of sentence structure on interpretation. They should also be adaptable to the obtaining of information

about the extent of agreement on crucial words in specific contexts. For such purposes, key sentences should probably be pretested for assurance that the word in question was generally interpreted within a narrow range of common meanings. (Slides)

SOCIETY FOR THE PSYCHOLOGICAL STUDY OF SOCIAL ISSUES

SYMPOSIUM: MEETING OF THE COUNCIL

10:00 AM, Monday, Assembly Room

Open to all members

SYMPOSIUM: MEETING OF THE COUNCIL

1:40 PM, Monday, Assembly Room

Open to all members

PRESIDENTIAL ADDRESS

7:00 PM, Monday, Ballroom

HADLEY CANTRIL: (Title to be announced)

Business meeting following

ANNUAL MEETING OF THE COMMITTEE ON INTERGROUP RELATIONS

8:00 PM, Tuesday, Georgian Room

Open session

SYMPOSIUM: VALUES FOR SOCIAL PSYCHOLOGISTS

4:00 PM, Wednesday, Georgian Room

GORDON W. ALLPORT, Chairman

Participants: David M. Levy, Else Frenkel-Brunswik

SYMPOSIUM: TRAINING AT THE PROFESSIONAL LEVEL IN SOCIAL PSYCHOLOGY

1:40 PM, Thursday, Ballroom

Jointly organized with the Division of Personality and Social Psychology

RONALD LIPPITT, Chairman

Participants: Theodore Newcomb, John Harding, Clarence R. Carpenter, Wayne Dennis

SYMPOSIUM: OBJECTIVES AND RESEARCH FORMULATIONS IN THE PSYCHOLOGICAL STUDY OF INDUSTRIAL RELATIONS

4:00 PM, Thursday, Ballroom

ARTHUR W. KORNHAUSER, Chairman

Participants: Douglas McGregor, W. J. Goode, Ross Stagner

ANNUAL MEETING OF THE COMMITTEE ON ATOMIC EDUCATION

1:40 PM, Friday, Georgian Room

Open session

PRESENTATION OF THE KURT LEWIN MEMORIAL AWARD

4:00 PM, Friday, Georgian Room

DONALD W. MACKINNON, Chairman

Speaker: General George Brock Chisholm, Director of the Interim Committee on World Health Organization

PRESENTATION OF THE EDWARD L. BERNAYS ATOMIC ENERGY AWARD

5:00 PM, Friday, Georgian Room

DAVID KRECH, Chairman

DIVISION ON ESTHETICS

7:00 PM, Tuesday, Parlor D

A. Selected Paper: Robert E. Dreher: The relationship between verbal reports and galvanic skin responses to music.
PROBLEM: The purpose of this study was to investigate the relationship between subjects' mood descriptions and galvanic skin responses to music.
POPULATION: The responses of 33 college music students were compared with those of 33 college students who rated themselves low on general musical background, interest and training.
PROCEDURE: Subjects' galvanic skin responses were measured with a standard electronic galvanometer during the playing of eight short, complete piano recordings. Their

mood descriptions of these records were obtained at the conclusion of each selection through the use of Hevner's "Adjective Circle."

RESULTS: 1. The verbal responses of trained and untrained subjects to musical stimuli were markedly similar, though trained subjects checked more adjectives on the Adjective Circle and showed less variability in their checking. 2. In comparison with the untrained group, the trained group had significantly greater rises in level of resistance before, during, and after each record. This was interpreted to represent its greater "at-homeness" in listening to music. Trained subjects also showed significantly greater momentary decreases in resistance (GSR's) during the music, indicating their generally greater responsiveness to music. 3. In all of the analyses, the galvanic responses of the trained subjects were

related to the mood descriptions of the records. This was shown by high positive correlations between GSR's and "intensity" of mood description and high negative correlations between rise in resistance level and mood descriptions. 4. In none of the analyses for untrained subjects was any relationship between mood and rise in resistance or mood and GSR established.

CONCLUSIONS: The results for the trained group were interpreted to represent a differential esthetic responsiveness—built up in the course of musical training—to the moods of musical stimuli. The absence of such differential responsiveness in the untrained group, despite its ability to make gross differentiations of musical moods, was interpreted as a lack of esthetic response to music. (Slides)

B. Presidential Address: PAUL R. FARNSWORTH: Psychological Considerations of Musical Taste

DIVISION OF CLINICAL AND ABNORMAL PSYCHOLOGY

SYMPOSIUM: PROBLEMS OF INTERPROFESSIONAL RELATIONSHIPS

10:00 AM, Monday, Ballroom

JAMES G. MILLER, Chairman

Participants: Chester C. Bennett, Margaret Brenman, Harold M. Hildreth, J. McV. Hunt

SYMPOSIUM: PROBLEMS OF COLLABORATION BETWEEN THE CLINICAL CENTER AND THE PSYCHOLOGY DEPARTMENT IN PROVIDING CLINICAL EXPERIENCE

1:40 PM, Monday, Ballroom

CARLYLE JACOBSEN, Chairman

I. J. Cohen, representing the outpatient clinical center
R. E. Harris, representing the inpatient clinical center
John G. Darley, representing the clinical center on the university campus

Karl Heiser, representing the university psychology department

Florence Day, representing the field of psychiatric social work education

This symposium will discuss the problems of collaboration between various kinds of clinical centers and the university psychology department in arranging adequate experience for graduate clinical psychology students. Each type of clinical center, as well as the psychology department, will be represented. A representative from the field of psychiatric social work education will discuss the implications for clinical psychology of the extensive experience that schools of psychiatric social work have had in collaborating with field work training agencies.

EXPERIMENTAL APPROACHES TO CLINICAL PROBLEMS

8:50 AM, Tuesday, Assembly Room

Volunteered papers selected by the division

WILLIAM A. HUNT AND JOSEPH ZUBIN, Chairmen

8:50 AM A comparison of critical flicker frequency in psychotics, psychoneurotics, and normals. *Henry N. Ricciuti, Fordham University.*

PROBLEM: 1. To determine whether differences in visual critical flicker frequency (CFF) exist among schizophrenics, manics, depressives, psychoneurotics, and normals. 2. To determine whether Wiersma's hypothesis that manics have the weakest, and depressives the strongest "secondary function" or perseveration, can be verified.

POPULATION: The clinical group consisted of 42 hospitalized psychoneurotics and 75 psychotics in the following categories: 46 schizophrenics, 15 manics, and 13 depressives. A comparable control group of 54 normals was utilized.

PROCEDURE: An electronic flicker apparatus with a frequency accuracy of .5% was utilized in the study. CFF measures for one eye were obtained by means of a recently developed method, to be described in the paper, yielding extremely reliable measures even for psychotics. Mean CFF measures for each group were computed, and the reliability of the obtained differences was evaluated by means of the *t* ratio.

RESULTS: The mean CFF obtained for the normals was slightly higher than the means obtained for each of the abnormal groups, but the only difference found to be statistically reliable was that between the normals and manics, which was significant at the 5% level. There

were no reliable differences found between mean CFF values of any of the abnormal groups. Differences in intra- and inter-individual variability will be discussed in the paper.

CONCLUSIONS: 1. No significant differences in CFF exist between normals and schizophrenics, depressives, or psychoneurotics. 2. No significant differences in CFF exist among manics, depressives, psychoneurotics, and schizophrenics. 3. There is some evidence, which warrants further investigation, that the CFF of normals is significantly higher than that of manics. 4. Wiersma's hypothesis that manics have the weakest, and melancholics the strongest "secondary function", is not verified insofar as evidence based on CFF is concerned. (Slides)

9:10 AM Visual resolving capacity in schizophrenia.
George S. Klein, The Menninger Foundation. (Abstract exceeded 300-word limit).

9:30 AM The relationship between particular Rorschach determinants and the concomitant galvanic skin responses for schizophrenic and normal subjects.
Carl F. Frost, Massachusetts Institute of Technology and Eliot H. Rodnick, Worcester State Hospital.

PROBLEM: This investigation is concerned with the differences between schizophrenic and normal subjects in the relationship between form-associated responses on the Rorschach test and the concomitant galvanic skin responses.

POPULATION: Twenty normal males and twenty schizophrenic male patients at the Worcester Hospital, comparable in age and education, were used.

PROCEDURE: A graphic record of the continuous galvanic skin responses was obtained during the administration of the Rorschach test by the use of an ink-writing photoelectric recorder and a modification of the Darrow bridge circuit, thus permitting the direct determination of the relationship between the magnitude of GSR and particular Rorschach determinants.

RESULTS: The normal subjects showed significantly larger GSRs with form-dominant responses than did the schizophrenics. For normal subjects, the GSRs on the form-dominant responses were significantly larger than those obtained on form-subordinant responses. This trend is significantly reversed for the schizophrenics. Related differences were found in other determinants. Although the mean GSR is less for the schizophrenic than for the normal subjects, the differences occur only on those determinants which involve control. On other determinants the GSRs of the schizophrenics are as large or even larger than those of the normals.

CONCLUSIONS: Control factors in the Rorschach responses are related to the level of concomitant GSR activity. Schizophrenics differ from normal subjects in the nature of this relationship, particularly in meeting a capacity to control and modify needs in meeting reality demands. (Slides)

9:50 AM Psychological test performance and insulin shock treatment. *Abraham Carp, Stanford University.* (Abstract exceeded 300-word limit).

10:10 AM Reduction in general intelligence following frontal gyrectomy and frontal lobotomy in mental patients. *Robert B. Malm, McGill University and Allan Memorial Institute of Psychiatry.*

The assistance of Miss Joan E. Coulter, Mrs. Norma R. Swinburne, and Mrs. Barbara Wickett is gratefully acknowledged.

PROBLEM: (1) To determine the effect of frontal lobe operations upon general intelligence. (2) To investigate specific, qualitative aspects of behavioral changes following operation.

POPULATION: Seven cases of bilateral frontal gyrectomy and eight cases of frontal lobotomy were studied before and after operation. These cases represented a remarkable opportunity for psychological study of frontal lobe function, because they had not reached a pre-operative state of personality deterioration, and because (in the gyrectomy series) clearly delineated frontal lobe areas were removed.

PROCEDURE: A battery of standardized psychometric tests was employed, and the results were analyzed quantitatively and qualitatively. Observations of the patient's behavior in everyday life situations provided important correlative data.

RESULTS AND CONCLUSIONS: (1) A consistent drop in general intelligence, as measured by the Wechsler-Bellevue Intelligence Scale, was found following operations. (2) There were significant reductions in Vocabulary Scores. Changes in the direction of greater concreteness of definition were noted postoperatively. (3) There were individual differences in amount of deficit which could not be accounted for very well in terms of extent and location of removal of brain tissue, or in terms of dysfunction. (4) One psychological factor which appeared to play a major rôle in producing individual differences was that of the patient's interests. (5) It was concluded that the balance of evidence at the present time favors an interpretation of the observed deficit in terms of a reduction in ability to maintain set in the face of interference. (Slides)

10:30 AM Intellectual changes in schizophrenic patients following electric shock therapy. *Lucille B. Kessler, Traverse City State Hospital.*

PROBLEM: The object of the present investigation was to note any changes in the Wechsler-Bellevue patterning of a group of unselected electroshock-treated schizophrenics.

POPULATION: Twenty fully cooperative patients of the various sub-classifications were accepted.

PROCEDURE: Within the first week of hospitalization, each patient was administered the entire Form I, ex-

cluding Vocabulary. Retesting was done at least two weeks after the shock series was completed. Comparison of the results involved IQs and sub-test scores, including an item analysis, pattern analysis and qualitative differences. Psychiatric impressions of each patient's post-shock condition were correlated with those indicated by testing.

RESULTS: The principle results included greatly improved IQ ratings on all three scales, greatest variability in Picture Arrangement, most significant increases in Comprehension and Picture Completion, moderate improvement in Picture Arrangement, Similarities and Arithmetic, Critical Ratios of 0 or near 0 for all other sub-tests, typical schizophrenic patterns for the group on the whole, with the exception of Object Assembly, decided decline in bizarre thinking and considerable room for improvement as evidenced by sub-average scores on all sub-tests save Information and Object Assembly.

CONCLUSIONS: The reduction in bizarre, incongruent thinking, better attention and increasing social awareness were believed to be important factors in the favorable results revealed by the Wechsler-Bellevue Scale.

10:50 AM The measurement of physiological responses to frustration before and after non-directive psychotherapy. *William N. Thetford, University of Chicago.*

PROBLEM: The purpose of this study was to investigate the relationship between the physiological response patterns of a group of subjects during a frustrating situation before and after a series of non-directive counseling interviews, and to compare their reactions to their personal problems. Some of the assumptions made were as follows: 1) The emotionally unstable person is more easily frustrated than the well-adjusted person. The ease with which he can be frustrated and the intensity of his reactions under frustration may be used as an indication of the nature and degree of his emotional stability. 2) The responses of a subject to a frustrating laboratory situation are similar to those which he displays in other critical situations. 3) Individuals requesting help from the Counseling Center at the University of Chicago do so because of some internal stress. It was hypothesized that if therapy enables the individual to reorient his lifepatterns, the manner in which he responds to a stress situation, as indicated by the autonomic nervous system reactivity, should be significantly altered by this therapy.

POPULATION: Clients in individual and in group therapy at the University of Chicago Counseling Center.

PROCEDURE: The physiological responses of individuals undergoing individual and group therapy, as measured by their galvanic skin response, heart and respiration rate, were compared before and after their entire series of therapeutic contacts. The same measurements were employed on a control group.

RESULTS: A significant decrease in emotionality, as indicated by certain of the physiological measures, was observed in the post-therapy test given to the experimental group, while such changes were not apparent in the control group.

CONCLUSION: Physiological measures may be utilized in the manner of this study to reveal significant effects of psychotherapy.

11:10 AM Certain aspects of personality as related to the electroencephalogram. *Erma T. Wheeler and Y. D. Koskoff, University of Pittsburgh.*

PROBLEM: The assumption that cerebral dysrhythmia and personality disturbance are correlated has frequently been expressed by members of the medical and psychological professions. The problem of the present study involves an investigation of this hypothesis.

POPULATION: Forty-eight non-institutionalized idiopathic epileptics with no detectable organic brain involvement were chosen as subjects for the study since the incidence of both personality disorder and cerebral dysrhythmia among epileptics is very high. Those subjects showing no dysrhythmia should, according to the hypothesis, show a minimum of personality disturbance while other dysrhythmic members should manifest a degree of disturbance commensurate with some type or degree of dysrhythmia.

PROCEDURE: Electroencephalographic recordings were obtained for each subject, the results were quantified on the basis of frequency, and the subjects were grouped into five categories: Non-dysrhythmic, Slow I, Slow II, Fast I, and Fast II. An extensive battery of psychological tests was administered to each subject and the results quantified.

RESULTS AND CONCLUSIONS: Analysis of variance revealed that only one of the psychological tests differentiated any of the electroencephalographic groups in a statistically significant manner. The digit span sub-test of the Wechsler-Bellevue Scale revealed the Slow I and Fast I groups to be significantly below the Non-dysrhythmic group in the ability measured by this test.

Inspection of test means revealed certain consistent trends. There was a persistent trend for the Non-dysrhythmic group to show the least personality disturbance while making the most physical complaints.

The Slow II group persistently showed the most severe disturbance. This later finding might be expected when one considers the clinical viewpoint that psychomotor slow waves may be coming from sub-cortical foci. Where low I.Q. occurs in connection with slow waves as in the subjects of this group, one has further reason to suspect organic damage. (Slides)

11:30 AM An experimental approach to stuttering as learned behavior. *George J. Wischner, University of Missouri.*

Certain features of a *program of research*, designed as a systematic experimental approach to the problem of stuttering as learned behavior, are considered. Basic points of departure for the present program are provided by existing data concerning the rôle of expectancy and anxiety in stuttering behavior, and the adaptation and consistency effects (the tendency for frequency of stuttering to decrease in an orderly manner with repeated reading of the same material, and the tendency for loci of stuttering to remain constant from reading to reading, of stuttering to continue to occur). The methodology and terminology of the proposed learning frame of reference are derived largely from the field of conditioning and learning.

An empirical parallel has been demonstrated between stuttering adaptation and the experimental extinction of conditioned and unconditioned responses. This parallel has been extended by the demonstration in stuttering behavior of the analogues of such conditioning phenomena as spontaneous recovery of the stuttering response, and of disinhibition, external inhibition, and conditioned inhibition in relation to stuttering adaptation.

On the basis of findings from studies of expectancy and anxiety in relation to stuttering behavior, the general working hypothesis that stuttering behavior is a learned anxiety reaction system has been developed and elaborated. Data relevant to this hypothesis are being integrated with reference to learning and anxiety concepts drawn principally from the work of Mowrer.

The specificity and availability of the stuttering response would appear to afford an excellent opportunity for the study of mechanisms underlying not only stuttering behavior but also what has been referred to generally as non-integrative or maladaptive behavior.

A number of experiments stemming from the proposed research program have already been completed and the nature and results of certain studies will be indicated. (Slides)

CLINICAL AND ABNORMAL PSYCHOLOGY

1:40 PM, Tuesday, Assembly Room

Volunteered papers selected by the division

LAURANCE F. SHAFFER AND DAVID RAPAPORT,
Chairmen

1:40 PM A comparative analysis of the crimes of prejudiced and unprejudiced male inmates in a state prison, as related to their central emotional conflicts. William R. Morrow, *Menninger Foundation*.

PROBLEM: To characterize in psychologically meaningful terms, in relation to central emotional conflicts, the different types of crimes committed by prejudiced and unprejudiced inmates of a state prison.

POPULATION AND PROCEDURES: (1) 110 male inmates,

representing all major legal offenses but excluding (most) men of low intelligence, psychotics, and minorities, took the Berkeley Ethnocentrism (E) Scale. This consists of 10 implicitly hostile statements about various minorities, with which the subject indicates his relative agreement or disagreement. E scores of major legal offense groups are statistically compared.

(2) 14 inmates with E scores in the high or low quartile were studied intensively by clinical interviews and analysis of prison case files: These included 8 "highs" (prejudiced) and 6 "lows" (unprejudiced). All but one (a high) were of average intelligence or better; socio-economically, both highs and lows ranged from lower lower class to upper middle class family background. Both highs and lows included representatives of each major legal offense group.

RESULTS AND CONCLUSIONS: (1) Major legal offense groups do not differ significantly in E score means, except that sex offenders have a higher mean than the others. (2) For the 14 inmates studied intensively, however, important differences emerged: Crimes of highs, without exception, seemed to express desperate attempts to prove masculinity: a) by "toughness" and/or "shortcuts" to external status or power; and/or b) by compulsive, "impersonal" heterosexual behavior of a hostile, exploitive character. Crimes of lows, with possibly one exception, seemed to express a mother-oriented quest for love and "mothering"—and sometimes explicitly self-interpreted as such by the inmate!—and/or ambivalence resulting from frustration of that quest. These differences coincide with differences in the central strivings of the high and low inmates: defensive attempts to deny weakness—versus—mother-oriented love-dependence. All 14 cases will be described briefly.

2:00 PM A study of personality structuring in spastic colitis. Georgene H. Seward, *The University of Southern California*.

PROBLEM: The present study is associated with a larger investigation designed to compare personality structuring in peptic ulcer, essential hypertension, and bronchial asthma. According to psychoanalytic theory spastic colitis frequently occurs in individuals who because of enforced submission during the period of anal training harbor resentments that conflict with their passive-receptive love needs. Their unconscious solution is to take forcibly the response he regards as having been unjustifiably withheld. The eliminative tendencies characterizing this syndrome have the dynamic meaning of restitution for his aggressions thereby serving to counteract anxiety and inferiority feelings.

This theory leads to the predictions that in comparison with the other conditions under consideration colitis cases will show evidence of:

1. more overtly expressed and extrapunitive directed aggression.

2. decreased inferiority feeling which permits freer expression of ambitious strivings.

3. less inner tension, anxiety and guilt.

4. less social sensitivity.

5. more anal components in sexuality.

POPULATION: A group of 30 men, 20-40 years of age, diagnosed as spastic colitis, served as subjects.

PROCEDURE: The Rorschach, T.A.T. and Rosenzweig Picture-Frustration Tests provided the chief measuring instruments. In addition, a special case history was devised to explore critical psychological areas.

RESULTS: Rosenzweig records show a predominance of extrapunitive reactions. Rorschach signs that seem to occur most consistently are unusually brief records, disproportionately high $W\%$, $W:M$ and $(H + A): (Hd + Ad)$ ratios. Conspicuous by their absence are m , k , and "burnt child reactions." T.A.T. and biographical material have not yet been analyzed.

CONCLUSIONS: Initial results lend support to most of the theoretical predictions. Definitive conclusions await comparisons with the other psychosomatic syndromes.

2:20 PM The Elgin check list of fundamental psychotic behavior reactions. *Phyllis Wittman, Illinois Department of Public Welfare.*

For this study the characteristics of what appear to be the three fundamental types of psychotic behavior reaction, affective exaggeration, paranoid compensation and schizophrenic regression, have been evaluated for 100 patients at the Elgin State Hospital.

A check list of the characteristics for the two extremes for each type of fundamental psychotic behavior, that is: (1) Euphoric Expansion and Depressive Constriction, (2) Somatic Aggression and Ideational Substitution and (3) under Schizophrenic Withdrawal the two extremes of Bizarre Irrelevant Affect and Paucity of Affect and Ideation.

The way in which the scale is used is described and the weightings arrived at independently by two different raters are correlated. Two cases both diagnosed as dementia praecox, paranoid type yet very different in the psychotic behavior reactions are discussed in terms of the psychotic behavior reactions displayed. The lack of significance for studies using diagnostic groups with such heterogeneity among the subjects in a given diagnostic category is outlined and the rationale for relatively objective evaluations that can be checked by others is discussed. (Slides)

2:40 PM Personality characteristics related to hypnotizability. *Roy Schafer, Austen Riggs Foundation, Stockbridge, Massachusetts.*

This study is aimed at clarifying the methodology of clinical research using psychological tests as well as contributing to the understanding of hypnotizability as a personality characteristic. The test results of a group

of excellent hypnotic subjects were compared with those of a group of very poor hypnotic subjects. A battery of tests was used. "Blind analysis" of the records disclosed certain relatively common personality characteristics in the very poor subjects, while statistical comparisons were unrevealing as well as at variance with previously published data. A follow-up study on a new group of subjects bore out these trends. The personality characteristics occurring frequently in the poor subjects and infrequently in the good subjects were: rigid obsessive-compulsive defenses, projective trend, easily provoked aggressions, denial of passive needs, emotional unadaptiveness, and narcissistic emotional orientation. Excessive reliance on repression was found to characterize about half of the good subjects.

3:00 PM The prediction of social acceptance by means of psychoanalytic concepts. *Doris R. Miller, Stanford University.*

PROBLEM: To investigate the relationship between the number of psychoanalytically defined signs of regression and conflict revealed in a story completion test and status on a sociogram.

POPULATION: 102 fourth to eighth grade students.

PROCEDURE: Story beginnings were constructed involving situations which symbolized potentially traumatic difficulties such as castration fears and oedipal conflicts. In a composition period, subjects were asked to write imaginative endings to each story. Using precautions to avoid halo effect, an individual who was untrained clinically and psychoanalytically unsophisticated scored the tests. Criteria were phrased as objectively as possible. For example, a point was scored for orality for each mention of oral, respiratory or tactual functions. The final score for each subject was the total sum of points for orality, anality, repression, frustration and intropunitiveness-extrapunitiveness. The criterion consisted of a five group distribution of social status which was constructed from sociograms of rejection and acceptance.

RESULTS: The average sum of points was at a minimum in the leader group and increased for each group in the direction of the most rejected. The most significant single predictor of rejection was the inclusion of oral functions.

CONCLUSIONS: The number of signs of psychoanalytically defined conflict and pregenital adjustment obtained from a story completion test predicts successfully the degree of social acceptance by one's peers. The signs may be scored by a person lacking clinical and psychoanalytic training.

3:20 PM Wechsler-Bellevue "scatter" in schizophrenics and normal controls. *Albert Vincent Freeman, Columbia University.*

PROBLEM: Will "scatter" (defined as intra-individual

variability) on the Wechsler-Bellevue Intelligence Scales differentiate (A) schizophrenic patients from normal controls, and (B) hebephrenic from paranoid schizophrenics? The theory underlying Rapaport's use of the Wechsler-Bellevue in clinical practice is that "disparity of efficiency ... in an intelligence test is an expression of maladjustment ...". The present research attempts to provide optimal conditions for validation of the scatter approach in diagnostic testing.

PROCEDURE: Two schizophrenic groups presenting grossly different symptomatology and one normal control group (N = 25 in each) have been matched for sex, age, race and educational attainment. By means of analysis of variance and covariance, the Wechsler-analysis of variance and covariance, the Wechsler-Bellevue subtest variability for each individual is calculated independent of the influence of mean level of test performance around which scatter occurs. Group comparisons are then possible.

RESULTS: The resultant data will be presented as follows: (1) group differences with respect to central tendency on verbal, performance and full Wechsler-Bellevue scales; (2) group differences in intra-individual variability on the three scales; (3) group differences in intra-individual variability (residual variance), when each group has been adjusted by covariance to an equivalent mean level; (4) differences as described in (1) above, when the verbal mean is held constant by covariance; (5) group differences in mean level of subtest performance when subjects are reduced to a common level with respect to intra-individual variability; and (6) amount of overlap between psychotic and normal groups, with respect to scatter.

CONCLUSIONS: Results obtained will be discussed in relation to the clinical impressions of Wechsler, the Rapaport theory stated above, and the findings of previous investigators (Magaret, Gilliland, Klein, Brogden and others). There will be included a consideration of criticisms which have been levelled against using Wechsler-Bellevue scatter as a diagnostic aid.

3:40 PM The predictive value of psychological tests in infancy; a report on clinical findings. *Sibylle Escalona, Menninger Clinic.*

POPULATION: The subjects of this study are infants who were referred to the Menninger Foundation for psychological study prior to adoption and were examined again after having been in adoptive homes for no less than one year. The report is based on a total of 113 psychological examinations, administered to 51 children.

PROCEDURE: The Gesell Developmental Schedules and the Cattell Infant Intelligence Scale were administered to infants below the age of six months. Formal testing procedures were supplemented by additional observations to be described, and test findings were evaluated qualitatively. The same children were retested (using the Cattell Infant Intelligence Scale and/or the Revised Stanford-Binet Intelligence Test) from one to three

times, after having been in adoptive homes for one year or more. Clinical observational procedures were added to the testing procedures proper on all occasions.

RESULTS: Though the number of cases is too small to permit adequate statistical treatment, the correlation between estimates of intelligence level obtained in early infancy and during the preschool years is better than published reports indicate. The data suggest that certain aspects of mental functioning can be predicted with greater accuracy than others and that the same formal test findings can be interpreted differently in the light of concomitant clinical observations, thus increasing the predictive value of psychological tests given in infancy.

CONCLUSIONS: Psychological examination of infants gains in usefulness when testing is integrated with other clinical procedures, and when findings are evaluated in the light of some general psychodynamic concepts as well as from a normative point of view. The relatively greater stability of some aspects of mental functioning, as compared to others, can be explained if a 'predisposition' towards certain modes of psychological experience is assumed to be present at birth.

4:00 PM Castration anxiety in an adult as shown by projective tests. *Richard Sears, VA Mental Hygiene Clinic, Detroit, Michigan.*

A case study is presented in which a series of projective tests, including the Rorschach, Bender-Gestalt (utilizing the method of verbalization suggested by Hutt), Good-enough "Draw-A-Man", Stein Sentence Completion, and TAT, together with some material from the Wechsler-Bellevue, bring out unusually clear-cut and unequivocal evidence of castration anxiety, and its dynamic interrelations with passive-dependent and latent homosexual trends, in a 28 year-old man.

The test results support the hypothesis that the dynamics of this castration material cannot be adequately explained by considering early childhood experiences to be of merely "historical interest" as might be the case if, due chiefly to "functionally autonomous" homosexual cravings, the patient wished to lose his genitals in order to be more like a woman. The test data supports the assumption that the patient is symbolically re-living the Oedipus situation, with inability to proceed to a satisfactory masculine identification because of anxiety aroused by the father figure and ambivalent feelings toward the mother.

Re-administrations of the Wechsler-Bellevue, Rorschach, and TAT after an interval of a year show basically similar test patterns, with certain changes which correlate well with observations made during therapy.

4:20 PM A study of the psychoanalytic theory of psychosexual genesis. *Gerald S. Blum, Stanford University.*

Many previous attempts made by psychologists to study psychoanalytic theory have been inadequate because they have failed to operate strictly within the psychoanalytic framework of the unconscious, repression, reaction formation, and the like. To meet this need for independent study of psychoanalytic theory by a psychoanalytically oriented method, the present modified projective technique was evolved. It consists of a series of eleven cartoons depicting the stages of psychosexual development and significant object relationships, including oral eroticism, oral sadism, anal sadism, the Oedipal situation, autoeroticism, castration anxiety, identification, sibling rivalry, guilt, ego ideal, and love object. The characters are a family of dogs and the main figure, Blacky, is presented as a male offspring to the male subjects and as a female offspring to the female subjects. Each cartoon is projected on a screen for two minutes and the group of subjects is asked to write a vivid, imaginative story concerning it. After the presentation of each cartoon, there is a set of multiple-choice and short-answer questions relevant to the psychoanalytic dimension under consideration. Finally, the subjects are asked to give their preferences for the various cartoons.

The test has been administered to approximately 120 male and 120 female elementary psychology students, with a view toward determining whether the obtained differences between the sexes correspond to the differences suggested by psychoanalytic theory. The subjects were naive with regard to psychoanalytic theory at the time of testing. Analyses of the data thus far completed reveal numerous sex differences (chi-squares significant at the 1% level) in such areas as degree of anal sadism, Oedipal intensity, guilt, ambivalence in identification, and others. These differences have been found generally to be consonant with psychoanalytic theory. (Slides)

SOCIAL HOUR

Arranged for members of the Division of Clinical and Abnormal Psychology, the Division of Industrial and Business Psychology, and their friends by the Division of Consulting Psychology

5:00 PM, Tuesday, Georgian Room

Hosts and Hostesses: Mr. and Mrs. F. Lyman Wells, Miss Louise Wood, Mr. and Mrs. Robert A. Young

PRESIDENTIAL ADDRESS

8:00 PM, Tuesday, Ballroom

David Shakow: Psychology and Psychiatry; a Dialogue.
Business meeting following

SYMPOSIUM: RECENT ADVANCES IN DIAGNOSTIC PSYCHOLOGICAL TESTING

8:50 AM, Wednesday, Ballroom

ARTHUR L. BENTON, Chairman

Participants: Robert E. Harris, George A. Muench, James G. Miller, L. Joseph Stone, Hans L. Teuber, Joseph Zubin

PROJECTIVE TECHNIQUES

1:40 PM, Wednesday, Assembly Room

Volunteered papers selected by the division

SILVAN TOMKINS, Chairman

1:40 PM Evaluation of a short form of Rorschach.
Richard A. Cutts, Veterans Hospital, Fort Custer, Michigan.

PROBLEM: To determine the feasibility of using a fewer number of the Rorschach cards to obtain valid findings which would compare with the results obtained by using only ten cards.

POPULATION: 50 Rorschach records of normal subjects, psychotics, and neurotics, were used.

PROCEDURE: Psychograms for each full Rorschach administration were obtained. Another psychogram on the same records but using only six of the cards was constructed. The six cards used were III, IV, VII, VIII, IX, X. Statistical procedures were applied to determine the significance of the differences.

RESULTS: With regard to such matters as F+%, A%_c, H%, F%_c, P%, S%_c, statistically insignificant differences were found between the two protocols. With regard to location areas differences were greater but showed a consistent trend making prediction feasible.

Analysis of the records indicate that it is possible to predict closely the sum C and various combinations of C on the basis of the six card record. The same situation appears to be true with regard to shading responses.

Movement responses showed a consistent tendency as did the range of content. Vista responses were less reliably picked up.

The number of responses on the six card records was approximately two-thirds of those on the full record. Contamination, confabulation, and position responses were not reliably picked up on the six card record, and predictions can not be made on these factors; however, they occurred very rarely in the 50 records. Bizarre responses usually occurred in the six cards when they occurred in the ten card record.

CONCLUSIONS: There are strong indications that differences between six-card Rorschach and the ten-card Rorschach for those items which are most usually quantified are not significant. Ratios between such factors as color, shading, movement, number of responses, and range of content appear to be consistent enough to make predictions.

2:00 PM A revision of the Murray TAT for use with a minority group. *Charles E. Thompson, Tulane University.*

PROBLEM: An experimental study of the Murray TAT revised for use with Negro subjects. In this study an answer was sought to the following question: Do Negro subjects react differently on the TAT when the pictures have Negro people depicted in them than when Caucasian people are portrayed?

POPULATION: Normal adult male veteran Negroes currently participating in an academic program within Dillard University, New Orleans, Louisiana.

PROCEDURE: The problem has been investigated by constructing a parallel series of TAT pictures identical to the Murray pictures (Nos. 1, 2, 4, 5, 6BM, 7BM, 8BM, 12M, 17BM, 18BM), but having the characters depicted as Negroes. Such a revision has been titled the Thompson-Dillard Revision of the Murray TAT. The obtained population was divided into two sections: Section I received the Thompson-Dillard Revision of the Murray TAT, Section II received the Murray TAT. Group administration of the test materials was the method used to obtain the data upon which this study is based.

RESULTS: The obtained data (to be presented) revealed a statistically significant difference between the protocols given to the pictures portraying Caucasians as compared with the protocols given to those pictures portraying Negroes.

CONCLUSIONS: Projection is in part a function of the stimulus presented. The literary productions given by the Negro for the Murray TAT material is, in part, a function of the white stimulus figures. When Negro figures are presented, as is done in the Thompson-Dillard Revision, different productions are given. (Slides)

2:20 PM Rorschach patterns in involuntional melancholia. *Isabelle V. Kendig and Claire M. Vernier, St. Elizabeth's Hospital.*

PROBLEM: The study was undertaken to determine whether typical Rorschach patterns exist for the Involuntional Psychoses.

POPULATION: One hundred women patients at Saint Elizabeth's Hospital, fifty white and fifty colored, twenty-five in each group being diagnosed as Involuntional Melancholia, twenty-five as Paranoid Involuntional, constitute the case material.

PROCEDURE: After equating the four sub-groups for age, education, socio-economic range, present and pre-psychotic level of intellectual functioning, the Rorschach test was administered individually to each patient and the resulting data submitted both to quantitative (statistical) and qualitative analysis. Special attention was given to content analysis because of the important role which sexual preoccupations play in the psychosis.

RESULTS: Final results cannot be reported at this time as the study is still in progress but the close relation frequently hypothesized between the paranoid involuntional and the paranoid schizophrenic seems to be substantiated as well as the occurrence in all involuntional syndromes of a number of organic factors. While there is thus some overlapping of signs, the two patterns which have emerged are sufficiently clear-cut not only to distinguish the involuntional psychoses from schizophrenia and from organic brain disease but also to differentiate between the paranoid involuntional process and involuntional melancholia proper. The data obtained also throws considerable light on the pre-psychotic personality make-up of women who succumb to these mental disorders at the climacteric. The differences in pattern between white and colored appear to be a function of cultural factors rather than of any essential modification of the psychosis.

CONCLUSION: Rorschach patterns characteristic of the Involuntional psychoses, hitherto undefined, have been established as an aid to differential diagnosis and to a better understanding of the process.

2:40 PM Further study of suicidal configurations in Rorschach records. *Marguerite R. Hertz, Western Reserve University.*

PROBLEM: In a previous study, ten configurations in terms of Rorschach patterns were identified as reliably distinguishing suicidal patients from non-suicidal patients and from normal adults. These included neurotic structure, deep anxiety, depressed states, constriction, active conflict and deep struggle, ideational symptomatology, agitation phenomena, resignation trends, sudden and/or inappropriate emotional reaction, and withdrawal and deficiency in emotional rapport with the world. It was established that a combination of five or more of these configurations in a record was ominous of suicidal inclinations.

In order to verify these findings, a further study was made of new records analyzed "blindly", i.e. without previous knowledge of case history, or of the specific nature of any problems if they existed.

POPULATION: These consisted of one hundred records from normal and abnormal subjects to whom the Rorschach had been given by the writer and thirty-eight records which had been submitted by other Rorschach examiners.

PROCEDURE: Analysis was made of the extent of agreement between Rorschach blind findings and case histories, psychiatric reports, and subsequent histories in terms of suicidal trends. Summaries were made of the frequency and distribution of the configurations in the normal and abnormal subjects studied.

RESULTS: The analysis shows a high percentage of agreement between Rorschach records considered suicidal and case histories which reveal suicidal inclinations in the

form of serious threats, actual attempts and/or actual suicides.

CONCLUSIONS: Because of the high degree of accuracy in detecting suicidal trends the ten configurations may be considered good and valid prognostic signs, and may be put to practical application by competent Rorschach examiners. (Slides)

3:00 PM Constriction as rated on three productions.

Frances Merchant Carp, Stanford University.

PROBLEM: (1) Is there agreement between clinical psychologists' ratings for constriction of children's Rorschachs, play constructions, and crayon drawings? (2) What is the relationship between constriction ratings on the Rorschach, play construction and drawings of the same child?

PROCEDURE: From each of 96 children, an entire third grade of a small town-rural school, was obtained a Rorschach, the photograph of a play construction, and three crayon drawings.

Using a seven-point scale and working independently, two workers rated each set of material for constriction.

RESULTS: Tetrachoric correlation coefficients indicate close agreement between the two workers' ratings of each set of material, but chance relationships between constriction ratings for the same child's various productions.

CONCLUSIONS: Raters can agree well on constriction in Rorschach protocols, or play constructions or crayon drawings, but these judgments may tell nothing about constriction in other productions of the same children. The child whose Rorschach is rated extremely constricted is no more likely than any other child to have his play construction or any of his drawings judged similarly. Clinicians can agree, but what they agree about is far from clear. Unless we are willing to say that constriction is constantly redistributed at random in this group of children, the various sets of concordant ratings are not reflective of the same personality factor.

The results (1) call into question the indiscriminate use of such productions as projective material revelatory of relatively stable personality characteristics and (2) suggest the need for experimentally rather than rationally and observationally derived signs of constriction, in each of the expressive modalities. They propose that, at the present stage of development of the techniques used, personality evaluation may be determined too largely by choice of tool.

3:20 PM Projective interpretation of the Stanford-Binet in a clinical training program. *Gladys Lowe Anderson, Michigan State College.*

The qualitative interpretation of psychological examinations, including tests of general intelligence, is not new. Wechsler and Rapaport have made distinctive contributions in this direction. The host of experimenters with projective techniques have posed problems which psychological examiners cannot ignore.

The traditional objectives in training students to administer and interpret the Stanford-Binet have been essentially two: 1) to make the student thoroughly familiar with the standardized procedure for administering and scoring the test; and 2) to give practice to the student in being at ease in the person-to-person test situation.

The Stanford-Binet has traditionally (historically) yielded a mental age and an intelligence quotient. Scant qualitative interpretation has traditionally been offered beyond a description of the child's behavior, a rating of the child's attitudes during the test, and the expression of the examiner's judgment as to whether the results did or did not indicate the child's best performance.

A third training objective is possible: to utilize the potentialities of certain sub-tests of the Stanford-Binet for revealing not merely the child's mental capacities but the dynamic relationships between the child and the world in which he lives. With this objective in mind certain subtests are found to be especially productive of responses that permit projective interpretation.

The use of the Stanford-Binet as a projective device will be discussed and illustrative examples of children's responses obtained from students' training tests will be given. (Slides)

3:40 PM A study of the relationship between a projective and a questionnaire type of personality test in clinical diagnosis. *Samuel Granick, Washington University.* (Abstract exceeded 300-word limit)

4:00 PM The use of the H-T-P in personality analysis. *John N. Buck, Lynchburg State Colony.*

PROBLEM: To demonstrate the value to the clinician of the use of the H-T-P (a two-phased—non-verbal and verbal—approach to the analysis of personality) in the examination of adults.

POPULATION: Four adult subjects with personality maladjustment of different types and of different degrees of magnitude.

PROCEDURE: After a short description of the H-T-P technique and its theoretical foundations, each case is presented as follows: (1) by giving a very brief historical sketch of the subject; (2) by showing the subject's drawings and by analyzing and discussing them and the subject's comments (spontaneous and induced) and associations concerning them.

CONCLUSION: The freehand, pencil drawings of House, Tree, and Person can provide the clinician with data concerning the integration, sensitivity, degree of maturity, and level of function of a subject's personality that might otherwise be obtained only after prolonged and intensive interrogation and examination. (Slides)

4:20 PM An experimental analysis of the influence of color on the protocol of the Rorschach test. *Rich-*

ard S. Lazarus, *University of Pittsburgh*. (Abstract exceeded 300-word limit)

INVITED ADDRESS

4:40 PM, Wednesday, Assembly Room

Frederick L. Wells: Clinical Psychology in Prospect and Retrospect

PSYCHOTHERAPY

8:50 AM, Thursday, Ballroom

Volunteered papers selected by the division

R. NEVITT SANFORD and MARGARET

BRENNAN, Chairmen

8:50 AM An experimental study of the learning of client centered counseling in a six weeks training course. *D. D. Blocksma, University of Chicago*.

PROBLEM: This study reports the extent to which counseling techniques can be reliably identified and scaled on a client-centered to counselor-centered continuum, and the degree of learning of a client-centered approach in a brief training course.

POPULATION: The subjects were Veterans Administration Personal Counselors enrolled in a course given by the University of Chicago Counseling Center in 1946-47.

PROCEDURE: To secure an operational yet comparable measure of counseling procedures, the experimenter played the role of a client and recorded the thirty-seven subjects' counseling of one standard case before and two standard cases after training. The instruments are sensitive to degrees of training in client centered counseling. The training course is described.

RESULTS: Reliability checks show that judges can agree on the boundaries and identification of counseling techniques as defined in this study. High and low test scores (as obtained on tests given at the beginning and end of the training program) on directiveness and consistency of techniques are related to: instructor ratings, on-the-job supervisory ratings one year after training, clinical experience, average contacts per closed case on the job, and the subjects' rating of experiences valued during the six-weeks course.

CONCLUSIONS: Implications are given for training of counselors and for measuring the learning of counseling.

9:10 AM An analysis of the relationship between acceptance of and respect for self and acceptance of and respect for others in ten counseling cases. *Elizabeth T. Sheerer, Iowa State College*.

PROBLEM: To investigate the relationship between acceptance of and respect for self and acceptance of and respect for other persons.

POPULATION: Ten counseling cases conducted at the University of Chicago Counseling Center totaling sixty electrically recorded interviews.

PROCEDURE: 1. The concepts to be studied were defined operationally with the aid of four judges. 2. Using the above definitions five judges rated on a five point scale 50 statements revealing some self evaluation and 50 statements revealing attitudes towards others, extracted from recorded client statements from seven cases. Step one of the scale represented a total absence of expressed acceptance and respect. Step five represented an expression of acceptance and respect with no expression of a lack of them. The average rating was computed for each item agreed on by a majority of judges. These items provided illustrations of the five scale points, for each of the two scales. 3. The reliability of the two scales used and the reliability of each judge's ratings were determined and found adequate for the purpose of this study. At least two out of three judges agreed over ninety percent of the time in applying both "self" and "others" scales. Each judge's mean rating for each interview as a whole was computed. There was only one instance in which a statistically significant difference occurred between the mean ratings of any two judges on a given interview. 4. The investigator and three other trained judges together rated ten recorded counseling cases on both scales.

RESULTS AND CONCLUSIONS: A positive correlation exists between acceptance and respect for self and for others. A regular increase in acceptance and respect both for self and others was obtained for the more successful cases, with the increase being somewhat more regular in regard to the self than to others.

9:30 AM A study of the process of non-directive therapy. *J. Seeman, University of Chicago*.

PROBLEM: In 1943 Snyder completed an investigation of the nature of non-directive psychotherapy. The objective of the present study was to describe the course of non-directive therapy with clients counseled four to six years after those in the original study. The use of Snyder's instrument afforded a direct comparison between his findings and those of the present study, making it possible to observe again the process of therapy and to analyze the development of non-directive counseling methods with the passage of time.

POPULATION: The study was based upon an analysis of ten cases, comprising sixty interviews, electrically recorded at the University of Chicago Counseling Center between the years 1945 and 1947.

PROCEDURE: Four investigators, Gerard Haigh, Alice Jonietz, Esselyn Rudikoff and the author, applied the instrument independently to different cases. In order to determine the reliability of judgments each of four interviews selected from the cases at random was classified independently by three judges.

RESULTS AND CONCLUSIONS: Some of the findings are as follows:

1. *Reliability*—Weighted percentage of inter-judge agreement on identification of each unit was 83.3%.
2. *Counselor response categories*—85% of all responses were in the non-directive categories. Significant differences were observed in frequency of use of counselor response categories from case to case.
3. *Comparison of Snyder's study with present study*—Significant differences between Snyder's cases and cases in the present study were observed with respect to frequency of use of the response categories. Present study indicates more frequent use of non-directive categories (85% in present study, 63% in Snyder's study). Lead-taking, semi-directive, and directive responses were less frequent in present study (5.4% in present study, 29.7% in Snyder's study).

9:50 AM Changes in self perception as related to changes in perception of one's environment. *Ted Aidman, Chicago, Illinois.*

PROBLEM: To investigate the extent to which the changed feeling tones expressed by a successful non-directively counseled client towards herself are related to the changed feeling tones she expresses towards other persons or issues—her external reality—as she moves through psychotherapy.

POPULATION: One highly successful non-directively counseled case. All but the first of sixteen interviews were electrically recorded. The data are 1,258 classified feeling units.

PROCEDURE: Instrument—An instrument was developed containing five gross feeling qualities on the horizontal plane, each of which are subsequently subdivided into positive, ambivalent, and negative degrees. The feelings are (1) accept-reject (2) secure-threat (3) independent-dependent (4) worthy-unworthy and (5) happy-unhappy.

On the longitudinal plane of the instrument are arranged the four gross area referents and their specific components. The gross referents are (1) Concept of Self (2) Family and Kin (3) Interpersonal Relations (4) Issues and Abstractions.

Reliability procedure—Four judges were trained to determine the reliability of the study.

Analysis procedure—The statistical results of the study were analyzed by the techniques of (1) simple percentages (2) Chi Square and (3) Rank Order Correlation.

RESULTS: Reliability—There was 90% agreement among four judges on gross feelings and referent comparisons. A unit by unit comparison revealed slightly below 70% agreement.

Analysis—Each of the three statistical techniques used were corroborative in demonstrating that the gestalt of the process is consistent. That is, the feelings towards the Self and Non-Self were in almost parallel relationship when analyzed by quartiles—and were highly consistent on an interview by interview basis.

CONCLUSIONS: Feeling tone quality changes and referent area changes occur in a describable sequence. (Sequence changes will be described in paper.) The qualities of feelings held towards other persons and issues are similar to those we hold towards ourselves.

10:10 AM The personality of the psychotherapist.
Frederick Wyatt, McLean Hospital.

Assuming that specific qualities are needed for the successful practice of psychotherapy, a definition of such qualities can either be derived from pragmatic "clinical" observation, or from systematic study. Systematic studies of assessment as they are in progress in several places must be based on the study of the personalities of successful therapists or on an analysis of the therapeutic situation itself—most profitably on both. Analysis of the therapeutic situation, through the study of actual therapeutic experience, would aim to establish a scheme of the major demands and stresses implied in the therapeutic situation. It can be assumed, furthermore, that there is not only one but several personality constellations fit for doing psychotherapy adequately.

In this paper an attempt will be made to derive traits specific for therapy from an analysis of the therapeutic situation. Traits more specific than the several prerequisites usually mentioned (such as maturity, intelligence, empathy, etc.) apparently will be determined (a) by the stresses which the therapist will have to sustain and (b) by forms of apperception and reasoning peculiar to the therapeutic task. Among the former are the emotional demands of the patient in the transference situation, and the threat which the disclosure of motivation in therapy holds for certain fundamental beliefs which the therapist has in common with any other member of his culture. Among the latter are the ability to establish closures readily on various levels of experience, the ability to shift set quickly, and specific forms of imagination and of memory. These traits will be discussed in relationship to the dynamics by which they are determined in the development of personality.

10:30 AM Implications for therapy of personality changes resulting from a course in mental hygiene.
William U. Snyder and Barbara June Snyder, Pennsylvania State College.

PURPOSES: (1) to measure changes in personal adjustment relating to the giving of information about maladjustment in a mental hygiene course, and (2) to measure the difference in personal adjustment between a group of mental hygiene and general psychology students. **METHOD:** Minnesota Multiphasic Personality Inventories were administered at the beginning and end of the semester to 40 students in a course in mental hygiene and to 67 students in general psychology. Subjects' motivation was high; their knowledge of the experimental purpose was controlled.

California Personality Tests and Bell Adjustment Inventories were administered at the beginning and end of the semester to a different group of 24 mental hygiene students taught by the same instructor as the first group, and to 50 general psychology students. In addition, subjective attitudes toward the course were recorded.

Comparisons of the pre- and post-test scores and of the experimental and control group scores, and of the scores of a special matched control group were made, using the standard error of the difference between means. The scores of the 10 persons in the first mental hygiene class who had received individual psychotherapy were treated as a special experimental group and compared with the other experimental and control groups.

RESULTS: In no case did any of the control groups show significant changes between pre- and post-test scores. However, on the Bell Adjustment Inventory the experimental group approached a significant improvement in score on the retest. There were very significant differences in student opinion regarding personality changes resulting from the course. Also there were some significant differences between experimental and control groups on test scores. These differences are discussed and conclusions and inferences relating to group information-giving and psychotherapy are made.

10:50 AM An investigation of the effects of individual and group play therapy on the reading level of retarded readers. *Robert E. Bills, Georgetown, Kentucky.* (Abstract exceeded 300-word limit)

SYMPOSIUM AND ROUND TABLES: IMPLICATIONS OF CURRENT RESEARCH IN PSYCHOTHERAPY

1:40 PM, Thursday, Auditorium, Sleeper Hall, Boston University, 688 Boylston Street (four blocks from Hotel Statler)

CARL R. ROGERS, Chairman

Participants: Individual discussion groups to be formed at the psychotherapy symposium

SYMPOSIUM: CLINICAL PRACTICE AND PERSONALITY THEORY

8:50 AM, Friday, Ballroom

SAUL ROSENZWEIG, Chairman

Jointly organized with the Division of Personality and Social Psychology

Participants: D. W. MacKinnon, A. W. Combs, G. S. Klein

DIVISION OF CONSULTING PSYCHOLOGY

BUSINESS MEETING

11:10 AM, Tuesday, Parlor D

SYMPOSIUM: HUMAN RELATIONS AND ORGANIZATION

2:50 PM, Tuesday, Ballroom

Jointly organized with the Division of Industrial and Business Psychology

DONALD E. SUPER, Chairman

- A. Rensis Likert and Daniel Katz: A long-range program for study of group motivation, group morale, and group performance
- Nathan Maccoby: A comparison of behavior and attitudes of supervisors of comparable work groups differing in productivity
- Nancy Morse: An analysis of types of work satisfactions and the conditions to which they are related
- B. Panel: Marion Bills, Jack Dunlap, Chester Evans, E. Lowell Kelly, John W. Macmillan, Jay L. Otis, Alfred J. Marrow, Robert B. Selover

SOCIAL HOUR

5:00 PM, Tuesday, Georgian Room

Arranged for members of the Division of Clinical and Abnormal Psychology, the Division of Industrial and Business Psychology, and their friends by the Division of Consulting Psychology

Hosts and Hostesses: Mr. and Mrs. F. Lyman Wells, Miss Louise Wood, Mr. and Mrs. Robert A. Young.

SYMPOSIUM: PROBLEMS OF THE CONSULTANT IN CLINICAL PSYCHOLOGY

8:50 AM, Wednesday, Assembly Room

GEORGE A. KELLY, Chairman

Participants: Frances S. Alexander, Charles N. Cofer, E. Lowell Kelly, Bertha M. Luckey, Edward I. Strongin, Robert A. Young.

This symposium will be devoted to problems of the consultant in private practice. The discussants represent different geographical areas and different points of view. They include psychologists engaged largely in private practice and others concerned with training and allied responsibilities. (Session limited to members, including applicants for membership, in the Consulting Division.)

DIVISION OF INDUSTRIAL AND BUSINESS PSYCHOLOGY

SYMPOSIUM: HUMAN RELATIONS AND ORGANIZATION

2:50 PM, Tuesday, Ballroom

Jointly organized with the Division of
Consulting Psychology

DONALD E. SUPER, Chairman

Rensis Likert and Daniel Katz: A long-range program for study of group motivation, group morale, and group performance.

Nathan Maccoby: A comparison of behavior and attitudes of supervisors of comparable work groups differing in productivity.

Nancy Morse: An analysis of work satisfactions and the conditions to which they are related.

Panel: Marion Bills, Jack Dunlap, Chester Evans, E. Lowell Kelly, John W. Macmillan, Jay L. Otis, Alfred J. Marrow, and Robert B. Selover

SOCIAL HOUR

5:00 PM, Tuesday, Georgian Room

Arranged for members of the Division of Clinical and Abnormal Psychology, the Division of Industrial and Business Psychology, and their friends by the Division of Consulting Psychology.

Hosts and Hostesses: Mr. and Mrs. F. Lyman Wells, Miss Louise Wood, and Mr. and Mrs. Robert A. Young.

ANALYSIS OF PERSONAL FACTORS IN INDUSTRY

11:10 AM, Wednesday, Assembly Room

Volunteered papers selected by the division

ROGER M. BELLOW, Chairman

11:10 AM A clinical approach to the everyday problems of the normal supervisor and key man in industry. *J. Elliott Janney, Rohrer, Hibler and Replogle.*

PROBLEM: (1) To define and describe some of the principal human problems (as distinguished from technical problems) which tend to concern most supervisors and key men in industry. (2) To define and describe some of the contributions being made by some clinical psychologists to the solution of such problems.

POPULATION: Key men and supervisors of 178 corporations which have been studied for from one to twenty-one years each.

PROCEDURE: (1) Several families of persistent human problems tend to occur in all organizations studied and are the concern of this paper. (2) A clinical approach based upon, and oriented in terms of, the commonly accepted principles and facts of general psychology has

been developed. (3) Diagnosis-therapy has been developed as a continuum and is mutually participated in by both psychologist and client.

RESULTS: Analyses of case studies indicate that as the supervisor, or key man, in industry ascends the ladder of responsibility his preoccupation with human problems increases as his concern over technical problems decreases.

CONCLUSIONS: The everyday problems of normal supervisors and key people in industry are largely human problems. These human problems are of such a nature as to make the clinical approach to industrial consultation a fruitful one.

11:25 AM Employees' problems as related to interest in an educational program in industry. *Frank Costin, University of Chicago.*

PROBLEM: What are some of the factors motivating employees to take part in an educational program sponsored by industry? A large manufacturing concern has set up in its plants an "off-hours" educational program. The purpose of this study is to explore the relationships that exist between the employees' participation in this program and their (1) personal problems, (2) academic interests, (3) vocabulary levels, and (4) specific biographical factors.

POPULATION: 725 employees representing the following occupational classifications: (1) professional, managerial, technical; (2) clerical, (3) skilled and semi-skilled manual workers, and (4) unskilled manual workers.

PROCEDURE: An anonymous questionnaire was administered to the employees, under group test conditions. The questionnaire was constructed to elicit responses in five major sections. These sections are as follows: (1) Personal problems. To discover these a problem check-list of 200 items was used. The check-list covers nine "problem areas," including "job adjustment." (2) Expression of interest in the educational program on a five-point scale. (3) Biographical data on eight factors. (4) Academic interests. A check-list of 100 items was used. (5) Vocabulary levels. A fifty item vocabulary test was employed.

RESULTS: Three groups of employees are now being compared: Group A—Participated in the educational program; Group B—Expressed interest in the program but have never participated; Group C—Expressed non-interest in the program and have never participated.

Groups B and C are random samples. All three groups are being compared as to (1) expressed problems, (2) specific biographical factors, (3) academic interests, and (4) vocabulary levels. The complete results and conclusions of this study will be ready for presentation not later than August 1. They will emphasize implica-

tions for both a theory of motivation and a basis for developing an educational program in industry.

This research is being carried out as a project for the Department of Education, University of Chicago.

11:40 AM The analysis of personal documents as an experimental approach to the study of employee attitudes. *Chester E. Evans, General Motors Corporation and Wayne University.*

PROBLEM: To study the entries received from employees in a contest on the subject, "My Job and Why I Like It", in an effort to determine whether employee attitudes are reflected therein. To develop the necessary research techniques for a valid analysis.

POPULATION: Materials pertinent to the contest were submitted to 297,401 eligible employees in 49 cities throughout the United States. Of those who were eligible, 174,854 employees from all localities entered the contest. For purposes of more easily checking the universe group, a ten per cent sample was identified as the entries were received, thereby providing absolute randomness.

PROCEDURE: Early stages of the quantitative analysis entailed a content analysis to produce themes against which the entries could be tabulated. Cross-tabulations of themes and thematic patterns against vital statistics of the respondents were made. To establish meaningful differentiation between operating units of the corporation, a modification of the chi-square technique was used. Significant differences were checked against known sources in sub-sample units to determine the validity and meaningfulness of statistical findings. To further reduce the mechanical problem of analysis, the original 79 themes were retabulated into 18 major theme groups.

RESULTS: Significant differences of thematic material are indicated among the operating units. Investigation and experimental testing of these differences within these operating units substantiate the findings suggesting the reliability of the methods used.

CONCLUSIONS: This form of attitude survey successfully meets several objections to conventional polling practices. This approach does not force responses from the participants nor give them the impression that they are being studied. The technique is essentially a projective one, for it gives the respondent an opportunity to develop a field of psychological meaningfulness relating to the broader aspects of job satisfaction and dissatisfaction. In general, office employees showed quantitative differences in the themes developed in their entries. (Slides)

11:55 AM The use of a goal and achievement index in the study of business executive relationships. *C. G. Browne, The Ohio State University.*

PROBLEM: To study the opinions of industrial executives toward possible goals of the business and the degree to which these goals have been achieved.

POPULATION: Twenty-three top executives in a tire manufacturing concern.

PROCEDURE: By personal interview, executives gave a list of company goals and indicated how well each goal had been achieved. Each executive rated seventeen statements chosen from the total list on a five-point scale in terms of their importance as company goals and the degree of achievement attained with each one.

RESULTS: All of the executives, except one, believed that the company's achievements did not equal the importance of its goals, the ratio of goal score to achievement score varying from .480 to 1.000. Individual deviations from the president's "G-A" score as a criterion ranged from minus seven to plus twenty-one. Grouped by departments, finance rated company achievements lowest, followed by personnel, production, sales, and general administration.

Correlations between goal and achievement ratings by departments varied from .17 for sales to .66 for general administration. Correlations between department ratings and the combined ratings of the three top executives ranged from .54 to .88 for goals and from .60 to .87 for achievement.

All departmental groups rated achievement in personnel items highest in relation to their importance. Beyond this, there was a tendency for each department to consider that the greatest relative achievement had been in its own area.

CONCLUSIONS: Both between individuals and between groups of individuals in business departments, there are differences in attitudes toward company goals and achievement which may be indicative of psychological and personal relationships and attitudes within the business. The technique offers possibilities for further study as a measure of industrial leadership and communication between senior and junior executives.

BANQUET

6:00 PM, Wednesday, Salle Moderne

Presidential Address: George K. Bennett: A New Era in Industrial and Business Psychology

Business meeting following

THE CRITERION

8:50 AM, Thursday, Parlor A

Volunteered papers selected by the division

EDWIN E. GHISELLI, Chairman

8:50 AM What raters rate. *Erwin K. Taylor, Personnel Research Section, A.G.O.*

PROBLEM: To determine if quantification of a small number of variables from a complete service record of an officer's past performance could duplicate rankings

produced by exhaustive examination of the entire service record.

POPULATION: Two hundred permanent Lt. Colonels in the regular army selected at random from nine Branches of the Army.

PROCEDURE: (1) The population (for each branch) was randomly divided into two independent samples. (2) The complete military record of each officer was independently evaluated by eight senior officers in the headquarters of his Branch. (3) Forty-one variables on the record were quantified and these and the average rankings intercorrelated. (4) Several batteries of predictors were developed.

RESULTS: (1) Multiple correlations between batteries of from 4 to 6 variables and the "criterion" rankings were of the magnitude .90. (2) Cross validation reduced these to the order of .85. (3) The average correlations between pairs of raters (28 pairs) ranged from .68 to .92 for the twenty samples.

CONCLUSIONS: (1) Rankings based on an examination of service records tend to show higher reliabilities than those usually obtained by other rating procedures. (2) A small number of statistically selected variables can predict the average rank of an individual as well as or better than the evaluation by one rater can predict that of another rater.

Laverne Burke collaborated in this experiment.

9:05 AM The value of acquaintance ratings in criterion research. *Leonard W. Ferguson, Metropolitan Life Insurance Company.*

PROBLEM: The purpose of the research herein described is to determine the effect of variation in degree of acquaintance between rater and ratee upon the validity of a method of appraising employee performance. In the Metropolitan Life Insurance Company, district office managers periodically appraise assistant managers on one of two 52 multiple-choice item appraisal forms which are validated from time to time against various ratings furnished by traveling field representatives. The problem is to determine the effect of variation in the degree to which field representatives are acquainted with each assistant manager, upon the calculated validity of the appraisal.

POPULATION: The basic populations are 1500 assistant managers, 800 managers and 100 traveling field representatives.

PROCEDURE: Whenever criterion (i.e., numerical and paired comparisons) ratings are secured, each field representative states whether he is (a) extremely well, (b) moderately, or (c) only slightly acquainted with each assistant manager rated. Upon the basis of these ratings (and in accord with Likert's sigma scoring technique) an acquaintance index is derived, and assistant managers are classified into various groups in accord therewith. For

each of the resulting groups the validity of the appraisal is independently determined.

RESULTS: The correlation between degree of acquaintance and criterion ratings ranges between .02 and .59; the calculated validity of the appraisal varies directly (from .42 to .69) in accord with degree of acquaintance; and in eleven sample groups studied, the lower the relationship between degree of acquaintance and criterion, the greater the calculated validity of the appraisal (ρ , $-.42$).

CONCLUSION: The use of subjective ratings as a criterion necessitates the use of some method of eliminating or partialling out the effect of variation in degree of acquaintance between rater and ratee if the unattenuated validity of the appraisal is to be accurately determined.

9:20 AM Criterion reliability in the selection of recruiting personnel. *Donald E. Baier, Personnel Research Section, AGO.*

PROBLEM: To determine whether the apparent failure of predictors for selecting Army Recruiting Personnel was a consequence of unreliable criterion.

POPULATION: All Army and Air Force enlisted men on recruiting duty east of the Mississippi River, Spring 1946, who could be secured for testing ($N = 1075$).

PROCEDURE: a. Kuder Preference Record; a collection of multiple choice self-description items developed by the Personnel Research Section or constructed for the purpose; and a summary sheet giving personal military history data were administered in the initial study. The criterion was the number of recruitments per unit of time. Predictor data were collected only on the upper and lower third of the population. In a follow-up study, information was obtained as to which of the subjects were still on recruiting duty after a year had elapsed.

(b) In the first study scoring keys were developed by item analysis against the production criterion. The validities of these keys were then determined by rescoring in a cross-validation population. In the follow-up study biserial validities of the scoring keys already developed were determined against the criterion of retention on recruiting duty.

RESULTS: Estimated product-moment validities of the scoring keys in the first study were all low, ranging between .09 and .17. Suspected unreliability of the production criterion together with the information that opportunity to receive credit for enlistments varied greatly suggested that the disappointing results derived from the fallibility of the criterion. In the follow-up study an optimal combination of the initial scoring keys gave a biserial validity of .36.

CONCLUSIONS: The hypothesis that the low validities of the initial study were due to unreliability of the criterion rather than to the inadequacy of the predictors appears tenable. The follow-up study demonstrated that the

instruments developed have reasonably adequate validity as predictors of retention on recruiting duty.

9:35 AM Use of an independent measure in billet evaluation. *T. C. Karlowski and C. P. Sparks, Richardson, Bellows, Henry and Co.*

PROBLEM: To improve the accuracy of a billet (job) evaluation by supporting a Point System with an independent measure of billet level.

POPULATION: 112 billets (jobs) at the Naval Air Training Station, Pensacola, Florida. Coverage in rank is from enlisted personnel to Captain working in areas of operation, maintenance, administration, supervision, and instruction.

PROCEDURE: The 112 billets were split into eight stratified groups (means and standard deviations assumed equal) of 14 billets each. These groups in turn were systematically paired so that 28 groups of 28 billets resulted. Each of twenty-eight Navy judges selected to represent all apparent biases rated a group. This meant that each billet was compared with all others at least once, and seven rankings for each billet were provided. Mean and median rankings for each billet were then computed and converted into Standard Scores for comparison with Standard Scores obtained through the Point System. (The Point System employed the following factors: Education, Experience, Supervision Received, Supervision Exercised, Responsibility for Gear and Equipment, and Contacts).

RESULTS: The correlation between the Point Procedure and the independent measure was 0.88. Follow-up revealed reasons for discrepancies and allowed more accurate and equitable level assignment. Uncorrected split 3-4 reliability of ratings was 0.91. Correlation between mean and median rankings of each billet was 0.98.

CONCLUSIONS: A. The described rating procedure can be used to provide an independent check of a Point System of billet evaluation and thus result in a more accurate assignment of billet level.

B. By splitting a large group of billets into small stratified groups, a series of ratings of sufficient reliability can be obtained in a relatively short time.

C. Recommendations for reorganization and restructuring of billets based on a billet evaluation which includes ratings by local judges may be more easily supported.

TEST EFFICIENCY

11:10 AM, Thursday, Parlor A

Volunteered papers selected by the division

EDWIN R. HENRY, Chairman

11:10 AM A comparative study of the predictive efficiency of batteries of tests selected by the Wherry-

Doolittle and a multiple-cutting score method.

Floyd L. Ruch, University of Southern California.

PROBLEM: To compare the two methods named in the title as to predictive efficiency at different levels of selectivity and in different selection situations.

The operations involved in the Multiple-Cutting-Score method of test selection will be briefly described. This procedure differs from the Wherry-Doolittle method in: (1) requiring lower skill of clerical labor used in establishing selection standards; (2) requiring fewer hours of labor to establish standards; (3) requiring less time to apply standards to the new applicant; (4) not assuming rectilinearity of regression of test scores on the criterion; (5) in assuming that a high score on one test will not compensate for a low score on another test in the battery. It resembles the Wherry-Doolittle method in that it selects on the basis of predictive efficiency a group of tests to be included in a final battery.

Since this method was briefly described by its author in 1943 it has been employed in comparison with the Doolittle or Wherry-Doolittle method on the following groups of subjects: (1) 128 power-sewing machine operators, using 8 tests; (2) 165 detail-draftsmen trainees, using 11 tests; (In collaboration with Glen Grimsley) (3) 820 steam-winch-operator trainees in the United States Navy, broken down into a variety of subgroups and using a total of 16 different tests. (In collaboration with Jean Wahoske). (4) 500 students of accounting using 7 tests. (In collaboration with Glen Grimsley.)

PROCEDURE: The measure of efficiency of the battery selected by each method was the degree to which the criterion scores of the subjects selected by one method excelled those of an equal proportion of subjects selected by the other.

RESULTS: All studies completed thus far support the general conclusion that the Multiple-Cutting-Score method as compared with the Wherry-Doolittle method yields test batteries which are slightly more predictive of the criterion when the selection-rejection ratio is in the neighborhood of 10%. With less extreme selectivity, the superiority of the Multiple-Cutting-Score method is not apparent.

11:25 AM The development and validation of a battery of tests for the selection of clerical workers. *Robert B. Selover, Prudential Insurance Company.*

PROBLEM: The purpose of this study was to determine what abilities are important for the selection of workers engaged in a typical clerical job in an insurance company. POPULATION: The experimental group consisted of 193 clerks. These employees were divided among 5 divisions, each division with 2 sections. Cross-validation was carried out on 85 employees subsequently assigned to the job.

PROCEDURE: The following battery of tests was administered to the experimental group: Vocabulary,

Arithmetic Reasoning, Calculation, Speed of Reading, Memory, Letter-Digit Substitution, Name Checking, Number Checking, Dotting, Tapping, and Posting. Three supervisors for each section independently rated employees on the following factors: accuracy, memory, production, and over-all value to the section. In addition the supervisors ranked the employees in order of their over-all value to the unit. The ratings of the three supervisors were combined and used as the criteria. The interrelationships among test scores, experience and ratings were computed and factored by the centroid method.

RESULTS: The Wherry test selection method was used to determine the most valuable tests. A multiple correlation of .41 was obtained by a combination of 4 tests. Five factors were tentatively identified after an orthogonal rotation of the factor loadings. The abilities most important on this job appear to be number facility and perceptual speed. The tests were used to select employees for assignment which resulted in decreased variability. Nevertheless, cross-validation yielded a correlation of .33 with supervisors' ratings. Effectiveness of the selection method is shown by comparing the average ability of clerks in 2 divisions with a ratio of expected-to-actual operating expenses.

CONCLUSION: The selection procedure developed in this experiment is effective in improving operating effectiveness on the job.

11:40 AM The effectiveness of commonly employed occupational tests. *Edwin E. Ghiselli, University of California.*

PROBLEM: To summarize the validity coefficients of tests commonly used for the selection of workers in various occupations, the criteria being production or similar proficiency measures.

PROCEDURE: Published reports in the professional and trade literature relative to the validity of occupational tests were reviewed, and supplemented by unpublished findings obtained from various industrial and governmental organizations, and from personal investigations. To facilitate comparisons, tests and occupations were classified into major types. Where the data were sufficient, representative validity coefficients for each type of test for each occupational group were determined.

RESULTS AND CONCLUSIONS: For clerical workers best results are given by intelligence (.40), name comparison (.35), and arithmetic (.35) tests, and fair predictions by number comparison (.25), immediate memory (.30), and substitution (.30) tests. Cancellation (.15), spatial relations (.10), location (.05), path tracing (.10), pursuit (.10), tapping (.15), arm dexterity (.20), hand dexterity (.15), finger dexterity (.20), and personality (.20) tests are borderline or inadequate. Personality measures (.40), give good results for salesmen, and intelligence (.30) and interest (.25) are fair. In the case of sales

clerks, tests of various abilities uniformly yield low and negative validity coefficients (−.10). Positive predictions are given by personality measures (.30). For supervisory personnel intelligence tests give good results (.50). For factory foremen intelligence (.40), spatial relations (.40), and mechanical principles (.45) tests are good. Personality measures are borderline (.20). Spatial relations (.45) and mechanical principles (.40), and intelligence (.35) tests give good predictions for skilled workers, and finger dexterity tests (.20) are borderline. Hand dexterity tests (.35) appear to be best for semiskilled workers, and fair predictions are obtained from cancellation (.30), spatial relations (.30), path tracing (.25), mechanical principles (.25), finger dexterity (.30), and personality (.30) tests. Borderline or inadequate results are given by intelligence (.20), arithmetic (.15), number comparison (.20), name comparison (.20), location (.20), pursuit (.20), tapping (.15), and arm dexterity (.15) tests.

11:55 AM The prediction of the performance time of a motor task from the performance times of its component parts. *Jerome S. Kornreich, Yale University.*

PROBLEM: The industrial technique of setting a time value on a job from tables of synthetic standard times requires the division of the job into its component motor elements and the summation of standard times for each of the elements. The use of this technique implies that there is no change in the performance times of the elements when they are performed separately and when they are performed in serial combination. The present experiment was designed to furnish evidence on two problems: (1) Is the performance time of a serial motor task greater than, equal to or less than the time that would be predicted from the sum of the separate performance times of its component units? (2) If there is a difference between the two times, is it a function of the number of units in the task?

PROCEDURE: Groups of Yale undergraduates were run on three different serial, motor tasks—one with identical units, one with similar units and one with dissimilar units. Performance times were computed for each of the units and for their successive combinations.

RESULTS: 1. The performance time of a serial motor task exceeds the time that would be predicted from the sum of the performance times of its component units.

2. The difference between the two times, expressed in absolute time values, is a positive function of the number of units in the task.

CONCLUSIONS: Although the experimental procedures used are not directly comparable to industrial jobs, the results obtained suggest that completely accurate use of synthetic standard time data will require the computation of percentage time allowances to cover the increase

in performance time caused by the combining of work elements. (Slides)

12:10 PM A study of faking on the Kuder Preference Record. *Orrin H. Cross, University of Alabama.*

PROBLEM: To determine whether or not a motivated person can fake an interest which he does not possess on the Kuder Preference Record.

POPULATION: 364 high school students from four of the five Birmingham, Alabama high schools, 181 males, 183 females.

PROCEDURE: About six hundred students of both sexes in four of the five Birmingham high schools were given the Kuder Preference Record as part of their guidance program. High scoring individuals on each of the nine scales were then asked to fake a low interest in that field and low scoring individuals were asked to simulate a high interest. None of the participants had been informed as to his honest score.

RESULTS: The subjects of both sexes succeeded in faking every one of the scales. Values of "t" between honest and fake scores by sex indicated probabilities of less than one in a hundred on all scales excepting one. On this one in a hundred on all scales excepting one. On this scale, the persuasive, the "t" value for the females who attempted to fake a low score represented a probability between one and two in a hundred. When the "t"-value of this group is corrected by the elimination of two cases who increased their scores rather than decreased them this probability also falls below one in a hundred.

CONCLUSIONS: It may be concluded from these results that the use of the Kuder Preference Record can only be

justified where there is little incentive to mis-represent oneself, e.g., in a guidance situation. In a situation where one is motivated to wish to appear interested in a field of work, e.g. business or industry, the use of this inventory appears contraindicated.

A partial report of this study was given at the 1948 meetings of the Southern Society for Philosophy and Psychology.

SYMPOSIUM: NOVEL TESTING TECHNIQUES: THE INTERACTION CHRONOGRAPH

1:40 PM, Thursday, Assembly Room

GEORGE K. BENNETT, Chairman

Presentation of research findings: E. V. Chapple

Participants: Harold A. Edgerton, Marion W. Richardson, Carroll L. Shartle, Robert J. Wherry.

SYMPOSIUM: ETHICAL PRACTICES IN INDUSTRIAL PSYCHOLOGY

8:50 AM, Friday, Assembly Room

H. E. BURTT, Chairman

Participants: Orlo L. Crissey, Edward E. Cureton, Chester E. Evans, E. E. Ghiselli, D. H. Fryer, Arthur W. Kornhauser, William McGehee, Harold Seashore and Carroll L. Shartle

This meeting will be open only to members of the American Psychological Association.

DIVISION OF EDUCATIONAL PSYCHOLOGY

SPECIAL EDUCATIONAL PROBLEMS

8:50 AM, Tuesday, Georgian Room

Volunteered papers selected by the division

FRANCIS P. ROBINSON, Chairman

8:50 AM Hearing deficiency and scholastic achievement.

Frank W. Finger, University of Virginia.

PROBLEM: To determine the relationship between hearing deficiency and scholastic achievement score, with performance on a non-language test of general ability held constant.

POPULATION: Two groups of 28 children each, selected from a total tested population of 442 pupils of grades 4-7 in a county school system in Virginia.

PROCEDURE: On the basis of two group screening tests involving the Western Electric 4-A audiometer, and two individual pure tone checks (Maico D-5 pure tone audiometer), 28 pupils with average hearing loss over the speech range of more than 10 db. in the better ear were designated "hard-of-hearing." Each of these pupils was

paired with a normal-hearing pupil, with score on the non-language series of the Pintner General Ability Test, sex, age, and years in school equated. Scores of the two groups on the Stanford Achievement Battery were compared.

RESULT: The hard-of-hearing group scored an average of 3.53 points lower on the total achievement battery than did the matched normal-hearing group, with this difference significant at the 4% level of confidence. Differences on the sub-tests of paragraph meaning, language usage, and arithmetic reasoning were respectively 4.32 ($P = .06$), 5.00 ($P = .07$), and 5.90 ($P = .001$). In average IQ on the non-language test, the 28 hard-of-hearing pupils were not significantly different from their 414 normal-hearing classmates.

CONCLUSIONS: So far as can be generalized from the population sampled, there is no reason to believe that the intelligence of children with hearing defect is lower than that of normal-hearing pupils, if the comparison is made on the basis of a non-language test. However, the hard-of-hearing children are likely to progress academically at

a sub-normal rate, unless special consideration is given to their handicap.

Miss Julie W. Sprunt collected the data for this investigation. (Slides)

9:05 AM Teacher's problems with hard-of-hearing children. *Miriam Forster Fiedler, Vassar College.* (Abstract exceeded 300-word limit)

9:20 AM The prolonged pre-academic program at the Wayne County Training School: an evaluation after nine years. *Ruth M. Patterson, Edna A. Maisner, and Thorleif G. Hegge, Wayne County Training School.*

The prolonged pre-academic program at the Wayne County Training School has been described in many articles, most of which have appeared in the *American Journal of Mental Deficiency*. The program is designed to promote the acquisition of efficient work habits, reading readiness, manual and social skills, essential knowledge, and personal and social adjustment. It is "democratic" in nature, attempting to reduce frustration and develop initiative and a positive problem solving attitude. The positive values of the program are shown in a follow-up study of fifty-five boys (I.Q. 60-79 inclusive) to be reflected in a reduction of extreme problem behavior in the school and following parole to the community.

These boys entered the institution at an average C.A. of 9.0 years. Their academic instruction was now discontinued for approximately 2.5 years. Nevertheless they did as well as the comparison group with respect to final academic status and intelligence score.

9:35 AM The Air University program of reading training through improvement of visual processes. *Fred Couey, The Air University.*

PROBLEM: To develop techniques for improving the reading rate and comprehension of Air Force officers in the schools of The Air University, through practice in the visual processes.

POPULATION: 30 officers (pilot study); 115 officers (present study); projected population, 1948-49, 5000 officers.

PROCEDURE: *Preliminary testing:* Records are obtained from the orthorater and the ophthalmograph. Standardized scores are obtained from the Iowa Silent Reading Examination; rough scores on speed from averages on four timed paragraphs. *Training:* Six weeks program, three hours per week, spaced throughout weekdays. Twenty officers are assigned in each period. They work half an hour on the tachistoscope, from 5-digit to 9-digit slides; from $\frac{1}{2}$ second to $\frac{1}{10}$ second on each type. They spend the other half hour at the Reading Rate Controller, progressing by approximately five per cent increments each practice period. Reading materials are unleafed fiction books from current lists, selected only for topic interest. Consultation interviews are scheduled for

officers whose progress is "abnormal," for assistance in structuring their reading. Daily performance records are kept by each individual; self-administered weekly proficiency tests are used (covering a chapter in a fiction book). *End Testing:* Iowa Silent Reading Examination, alternate form, is administered to each officer.

RESULTS: *Pilot study:* Voluntary (students, instructors)—from average speed of 272 words per minute (with minimum comprehension of 70% by proficiency test), to 530 (same comprehension criterion). *Present study:* Required (students only)—from average speed of 250 words per minute to approximately 600 (comprehension criterion as above).

CONCLUSIONS: 1. Mature adults can be trained in relatively short time, with relatively little supervision, to increase their reading efficiency on general reading material. 2. A program of required reading training is as effective as a voluntary program. 3. The tachistoscope and Reading Rate Controller are valid instruments for producing increased reading efficiency.

PRESIDENTIAL ADDRESS

5:00 PM, Tuesday, Assembly Room

Percival M. Symonds: Education and Psychotherapy

DINNER AND BUSINESS MEETING

6:00 PM, Tuesday, Parlor A

SYMPOSIUM: THE ANALYSIS OF THE RESULTS OF A SURVEY ON THE CONTRIBUTIONS OF PSYCHOLOGY TO EDUCATION

8:50 AM, Wednesday, Parlor B

HARRY N. RIVLIN, Chairman

Participants: Lee J. Cronbach, Arthur T. Jersild, Irving Lorge, Harold H. Abelson, Herbert A. Carroll, Arthur I. Gates, S. L. Pressey, O. Hobart Mowrer, Maurice E. Troyer, May V. Seagoe, and Goodwin Watson

PREDICTION AND EVALUATION PROBLEMS

2:50 PM, Thursday, Parlor B

Volunteered papers selected by the division

ASAHEL D. WOODRUFF, Chairman

2:50 PM The definition of intelligence as ability to learn. *J. W. Tilton, Yale University.*

PROBLEM: Very low correlations between intelligence and learning have been offered as a challenge to those who define intelligence as ability to learn. This paper is an examination of the validity of the challenge.

PROCEDURE: 1. An answer is proposed to the question: Under what conditions may measures of learning be considered valid measures of ability to learn?

2. The position is taken (a) that these conditions are seldom met and (b) that, except as they are met, low correlations do not invalidate the definition in question.

3. Data are presented from two situations chosen to yield measures of learning ability of better than average validity. In both cases the learning was school learning in the social studies area. The learners were, in one case, a sample of 134 pupils from a large seventh grade in a single junior high school, and, in the other, all of the seniors ($N = 156$) in a senior high school.

4. The measures of learning are examined for validity and are correlated with intelligence test scores, and with the before and after-learning social studies test scores.

5. After-learning scores are evaluated as measures of learning ability.

RESULTS: The correlations between the measures of learning ability and intelligence test scores were as high as one could reasonably demand for a validation of the definition of intelligence as ability to learn, but the final score correlations were still higher.

CONCLUSIONS: So far as the limited study goes, it validates the questioned definition, finds no inconsistency between it and the many low positive and some negative correlations which have been reported, and offers the achievement test score obtained after a common period of motivation as the best measure of ability to learn in the given area.

3:05 PM Survey of army educational programs. *Wilton P. Chase, Personnel Research Section, AGO.*

PROBLEM: To compare psycho-educational problems in Army schools with those faced in civilian schools.

PROCEDURE: The Army employs technical experts in the fields of education and educational psychology to assist its own personnel research specialists in conducting surveys of educational programs in Army schools. These surveys are conducted much on the same basis as are similar surveys of civilian schools.

RESULTS: To date three Army schools have been surveyed. The evidence indicates that Army schools face common problems and have similar needs in developing appropriate and effective programs of instruction. The psycho-educational problems are more subject to control than are the same problems existing in civilian schools. However, their control within the Army is often more difficult in comparison with civilian schools because of differences in such things as: qualifications of instructors; training in instructional methods; school plants; source of training doctrine; methods of evaluation; limits upon tours of duty for instructors; supervision policies; length of school day; length of courses; availability of instructional aids; and, motivation of students.

CONCLUSIONS: Army education to date has been concerned primarily with training procedures without particular regard for their relation to the nature of the learning required to qualify personnel to undertake

various duties. There is a growing recognition of the need for approaching Army educational programs from a psycho-educational viewpoint which will result ultimately in modifying training procedures in order to solve what is essentially a personnel psychology problem, namely, to modify behavior through training in order that a soldier becomes qualified for assignments for which he is not qualified without appropriate training.

3:20 PM Prediction of student success in an engineering college. *Vernon Jones, Clark University.*

PROBLEM: The purpose of this investigation has been to determine the degree to which certain aptitude and achievement tests and secondary school marks will, individually and in teams, predict scholastic success at different levels of advancement in an engineering college. POPULATION: The study is based upon a follow-up of over 500 students entering an engineering college during a four-year period.

PROCEDURE: The entire entering class for each of four years was tested by the experimenter two or three days before the beginning of the academic year. The different tests employed with one or more classes were as follows: Cooperative Mathematics Test, Cooperative Physics, Cooperative Chemistry, Yale Spatial Visualization, Iowa Physical Science Aptitude, Otis Quick Scoring Mental Ability, Cooperative Reading, and the Carnegie Pre-Engineering Inventory. The secondary school marks of all students were analyzed and a correction applied to increase their comparability from school to school.

In analyzing and synthesizing the data multiple correlation and regression techniques were employed. The final results are based on 27 multiple R's and the accompanying regression equations.

RESULTS: The most efficient team discovered in this study for forecasting first semester and first year marks consisted of the mathematics test, the physics or chemistry test, and secondary school marks. The R between the criterion and this team was found to be .64 and .63 respectively in the two classes in which it was tried. The tests alone, involving a net testing time of 55 minutes, correlated .59 and .57 respectively with the criterion in these two classes.

The predictive value of the tests progressively decreased in forecasting second, third, and fourth year marks. In the regression equations for the later years school marks received relatively higher Beta weights than those in the first year.

The relatively long Carnegie Pre-Engineering Inventory was found to be closely similar to our battery in predictive value.

The writer wishes to acknowledge the assistance of Miss Mary Lee Bining in part of this study. (Slides)

3:35 PM Was college worth while? *Daniel Starch, Daniel Starch & Staff.*

PROBLEM: What do persons who have distinguished themselves in their respective fields consider they derived from their years in college?

POPULATION: Ninety-nine distinguished alumni of the University of Iowa, 89 men, 10 women, chosen by a committee. These included from business—6; education—17; engineering—5; journalism and writing—19; law, politics, public administration—25; medicine—9; religion—3; sciences—13; others—2.

PROCEDURE: Three questions were asked.

1. What are the three or four most outstanding values derived by you from college, post-graduate or professional training which have been most important in attaining eminence in your chosen field?

2. Did any teachers play an outstanding part in your accomplishments? If "yes", What about them influenced you most? (Please give names of teachers if you feel free to do so.)

3. As you look back at your college days, which of the following has been most valuable to you (1), which next (2), and so forth, in achieving eminence in your field? Please number all points.

(Seven points were listed)

RESULTS: Seventy-two of the 99 responded. As to Question 1, ability to think was mentioned by 39%, ability to express one's self 22%, high standards of performance 22%, development of personality 21%, broad grounding 21%, contact with fine personalities 21%, a philosophy of life 20%, training in scientific method 13%, learning to get along with people 11%.

The response to Question 2 was "yes" by all but four.

In response to Question 3, influence of great teachers was mentioned by 52%, training in knowing where and how to acquire further knowledge and skill 51%, skill in analyzing problems 39%, skill in deciding what to do 28%, understanding people 23%, actual knowledge or skill acquired 21%, influence of fellow students 10%.

MEASUREMENT PROBLEMS

4:00 PM, Thursday, Assembly Room

Volunteered papers selected by the division

ASAHEL O. WOODRUFF, Chairman

4:00 PM The tetrad technique and the centroid method in the development of a rating scale for teachers.
Blaise Laurier, University of Montreal.

PROBLEM: This report is a comparative study of the factors obtained by using factor analysis—Spearman's technique and Thurstone's method—in the treatment of experimental data from a tentative rating scale for teachers.

POPULATION: The results presented in this study are based on the ratings by 80 judges of 116 French Canadian religious teachers with regard to the character traits and abilities described in a tentative rating scale for teachers.

PROCEDURE: The following psychological tools were con-

structed: (1) a questionnaire intended to allow 51 educators from French Canada to express their opinions concerning the main character traits and abilities of a good teacher; (2) a rating scale devised according to the findings of the questionnaire. This scale, consisting of 24 traits and abilities, was applied to the 116 subjects of this study. The Spearman technique and the Thurstone method were successively used in the treatment of the intercorrelations of the ratings.

RESULTS: By the Spearman technique, the analysis has revealed the presence of three factors tentatively identified as general traits expressing: (1) the *professional dynamism* of the teacher; (2) his *psychophysical dynamism*; (3) his *ethical dynamism*. By the Thurstone method, the analysis has revealed the existence of three factors tentatively identified as follows: (1) *general aptitude to teaching*; (2) *sense of professional responsibility*; (3) *inspirational power and motivation of students*.

CONCLUSIONS: In spite of the two different methods used in the treatment of the data, there exists a striking homogeneity: (a) between the psychophysical dynamism and the general aptitude to teaching; (b) between the ethical dynamism and the sense of professional responsibility. With regard to the professional dynamism, it is a factor that has not been revealed by the Thurstone method. That may be explained by the high correlation between that factor and each one of the other two factors revealed by the Spearman method. With regard to the inspirational power and motivation of students, it is a factor brought to light by the Thurstone method.

4:15 PM The construction and differential value of a scale for measuring the attitudes of teachers toward pupils. *Carroll H. Leeds, Furman University.*

PROBLEM: The primary objective was to construct an attitude-measuring instrument that would differentiate teachers who have rapport with pupils from those who do not have such rapport. The assumption was made that a teacher's attitude toward pupils is an index to the rapport she has with them. Consideration was also to be given pupil reaction toward individual teachers whose attitudes had been measured.

POPULATION: 300 teachers of Grades 1 through 12; 12 principals; approximately 2500 pupils from Grades 4-6. These subjects were procured from 85 buildings in 15 public school systems in two eastern states.

PROCEDURE: The original Teacher-Pupil Inventory, consisting of several hundred opinion items relating to the nature and behavior of pupils, was administered to 100 teachers well liked by pupils and to 100 greatly disliked. The final Inventory consisted of 164 of the most discriminating items. Item responses were weighted in accordance with the differentiation established between the two groups of teachers.

The validity of the Inventory was determined by administering it to an unselected group of intermediate grade teachers, after having obtained ratings on these

teachers by (1) the pupils, (2) the principal, and (3) an expert.

RESULTS: 1. A validity coefficient of .60 was obtained when Inventory scores were correlated with the three ratings combined.

2. The means of the Inventory scores of the superior, unselected, and inferior groups of teachers were, respectively, 131.0, 77.6, and -32.0. The difference between the means of the superior and inferior groups yielded a critical ratio of 10.8.

3. The reliability of the Inventory was found to be .91.

4. Teachers scoring high on the Inventory were characterized by the pupils as being kind, friendly, understanding, willing to help, and able to explain clearly. Teachers making low scores were characterized as being "cross," "bossy," "fussy," and difficult to approach with problems.

CONCLUSIONS: 1. It is possible to measure a teacher's attitudes toward pupils in such a way that teachers who have rapport with pupils are differentiated from those who do not have such rapport.

2. The attitude of individual teachers toward pupils is significantly related to the pupils' attitudes toward the teachers.

4:30 PM How does marking on the basis of ability affect learning and interests? *Maurice E. Troyer, Syracuse University.*

The purpose of this study is to determine what effect grading on the basis of ability as compared with grading on the basis of achievement *per se* has on the learning and interests of pupils in the junior and senior high school.

Oneida, Norwich, and Little Falls are communities similar in size and in socio-economic status. Students in the Oneida Senior High School have been graded in accordance with ability for twelve years. Students in Norwich Junior High School have been similarly graded for five years. Conventional grading practices have been followed at all other grade levels in these two schools and in Little Falls.

The California Mental Maturity, Progressive Achievement, and Personality Tests have been administered to sixth, eighth, tenth, and twelfth grades in these three school systems. There are approximately one hundred students at each grade level in each of the schools.

Evidence summarized to date indicated that performance on regents examinations was significantly higher for those students who were marked according to their ability during the academic year.

The collaboration of Donald G. Wallace and Roy M. Hall is acknowledged.

4:45 PM Evaluation of psychological and educational changes in a three week school-camp experience. *Harry B. Gilbert and J. Wayne Wrightstone, Board of Education of the City of New York.*

PROBLEM: To evaluate the psychological and educational outcomes of an extension of schooling by means of sending pupils to camp for three weeks during the school term.

POPULATION: Two classes of children from the fifth and seventh grades of New York City Public Schools, totaling 62 pupils of both sexes.

PROCEDURE: Experimental pupils were matched with control pupils who did not go to camp. Pairing was based on grade, sex, chronological age, intelligence, and reading ability. Tests were constructed in Nature Study, Science and Health Education, Vocabulary and Arithmetic. An Interest Inventory was adapted. Sociometric data were obtained as well as a variation of the Who's Who technique. Children drew pictures and wrote letters on camping. These were evaluated by judgment rating scales. All of the foregoing were administered before and after camp to the experimental and control pupils. In addition, the experimental group was observed at camp, anecdotal records of behavior were made, and later each pupil was interviewed individually by a psychologist. Parents filled out questionnaires in order to obtain a poll of opinion of their attitudes about the school-camp experience for their children.

RESULTS: Experimental, or camp, group made definite gains over the control group in content areas that were tested and in the range of interests included in the inventory. Sociometric data were considered invalid due to change in social structure of group. There were many evidences of growth from clinical studies regarding significant changes in interpersonal and intergroup relations. This evidence was obtained from the anecdotal records and individual interviews by the psychologist.

CONCLUSIONS: The evaluation committee recommended extension of similar school-camp experiences for other children and a continuing and even more comprehensive evaluation of psychological and educational changes in children who engaged in this type of experience.

SYMPOSIUM: PROBLEMS OF TEACHING AT THE COLLEGE LEVEL

8:50 AM, Friday, Parlor A

Jointly organized with the Division on the Teaching of Psychology

WILLIAM A. HUNT, Chairman

Claude E. Buxton: Training for college teaching

C. R. Carpenter: Teaching aids

D. B. Harris: Methods in a general college

J. E. Horrocks: "Progressive education" in college teaching

Maurice E. Troyer: Field experience

Ronald Lippitt: Group methods

R. S. Crutchfield: Honors programs

DIVISION OF SCHOOL PSYCHOLOGISTS

SYMPOSIUM: CHANGING VISTAS FOR SCHOOL PSYCHOLOGISTS

8:50 AM, Tuesday, Parlor C

ETHEL L. CORNELL, Chairman

- A. Report of a national survey on the employment of school psychologists conducted by the Association of School Psychologists in the New York City schools
Presented by Morris Speevack
Discussed by Wilda M. Rosebrook
- B. The role of the school psychologist in psychotherapy
Participants: A. W. Combs, Bertha M. Luckey, Harriet E. O'Shea

PRESIDENTIAL ADDRESS

11:10 AM, Tuesday, Parlor C

MARGARET E. HALL: Current Employment Requirements for School Psychologists

SYMPOSIUM: APPROACHES TO MENTAL HEALTH IN SCHOOLS

1:40 PM, Tuesday, Parlor C

MILTON A. SAFFIR, Chairman

- Gertrude P. Driscoll: The approach through curriculum
- Norma E. Cutts: The approach through in-service teacher training in mental hygiene
- Fritz Redl: The approach through the mental hygiene of both the individual and the group
- Percival M. Symonds: The approach through the mental health of the teacher

BUSINESS MEETING

4:00 PM, Tuesday, Parlor C

DIVISION OF COUNSELING AND GUIDANCE PSYCHOLOGISTS

BUSINESS MEETING

7:00 PM, Wednesday, Parlor B

SYMPOSIUM: COUNSELOR TRAINING STANDARDS

1:40 PM, Friday, Assembly Room

CLIFFORD FROEHLICH, Chairman

- C. L. Shartle: Current developments in the professional standards for counselors and other guidance workers.
- H. M. Bell: The problems of standards for counselor training.
- Panel: Next steps in counselor training standards
- Members of Committee on Counselor Training: R. N. Anderson, R. C. Bedell, W. Blaesser, Mitchell Dreese, Donald Super, and F. Zeran.

ATTITUDES IN COUNSELING

8:50 AM, Saturday, Georgian Room

Volunteered papers selected by the division

HAROLD SEASHORE, Chairman

- 8:50 AM A comparative study of attitudes toward certain vocational problems. Mitchell Dreese, George Washington University.

PROBLEM: The major purpose of this study was to discover differences and similarities which could be observed between the vocational attitudes of college students in 1935 and in 1948. The secondary purpose was to dis-

cover whether or not there were any significant group differences between the veteran and non-veteran populations in the 1948 sample.

POPULATION: The subjects in the 1935 group were 74 college students whose attitudes were reported by Freda D. Egbert in her Master of Arts thesis, "Attitudes of Young People toward Certain Present-day Vocational Problems." In 1948 the subjects were 432 members of General and Applied Psychology classes at The George Washington University. These groups were chosen in order to avoid using any subjects who had taken college courses in vocational guidance. Of these subjects, 295 were veterans and 137 non-veterans.

PROCEDURE: The questionnaire used was the one devised by Miss Egbert for her study. This questionnaire consisted of fifty statements regarding the choice of a job, securing a job, and achieving success. Each statement was answered either "true", "doubtful" or "false".

RESULTS: The results for each item of the questionnaire were tabulated and converted into percentages. Comparisons were made for each item between the college students of 1935 and 1948, and within this latter group, between veterans and non-veterans. The 1935 and 1948 groups showed significant differences with respect to seventeen items. In the comparison of veterans and non-veterans sixteen items showed significant differences.

CONCLUSIONS: Although the expressed vocational attitudes of college students are essentially the same in 1948 as they were in 1935, significant differences exist which are probably explainable in terms of changed economic

conditions. The differences between veterans and non-veterans in 1948 are as great as the differences between 1935 and 1948 non-veteran populations.

This study was conducted jointly with Dorothy F. Snyder, Student Affiliate of APA.

9:05 AM The subtle-obvious factor in vocational and educational success. *Daniel N. Wiener, Minneapolis, Minnesota.*

PROBLEM: Can success in selling, trade and clerical training, and college work be predicted on the basis of differences between subtle and obvious personality test scores?

POPULATION: Salesmen, success defined by supervisors' ratings; clerical and trade trainees, success defined by progress in training; college students, success defined by school grades.

PROCEDURE: (1) Subtle (S) and Obvious (O) key results were studied for employed salesmen, clerical and trade trainees, and college students to determine if the differences between subtle and obvious symptoms were significant in predicting success. (2) A simple point formula was developed based on the difference between S and O for each of five scales, yielding combined results on a scale of from plus five to minus five. (3) The significance of percentage differences in elimination of successful and unsuccessful individuals at various cutoff points was studied.

RESULTS: (1) The number of individuals eliminated by the formula at given cutoff points was significantly greater for the unsuccessful than for the successful. (2) The trend of differences between the successful and unsuccessful was the same for the three groups although the distributions were different and the optimum cutoff points varied. (3) The higher the S scores were above the O, the more likely was success; the higher the O scores were in relation to the S scores, the more likely was failure.

CONCLUSIONS: (1) Subtle and Obvious keys for the Minnesota Multiphasic Personality Inventory can be used to help predict the success of various occupational and educational groups. (2) High S scores in relation to O scores tend to be predictive of success, while O scores high relative to S scores, of failure. (3) The same keys and formula can probably be used successfully in a wide range of occupational and educational situations although different cutoff points will have to be used.

9:20 AM Can vocational counselors predict the expressed attitudes of their counselees toward the counseling situation? *Ray C. Hackman, University of Maryland.*

PROBLEM: This study is concerned with the problem of establishing a method by which a counselor's insight into the attitudes of his counselees can be measured and then

describing counselor differences on the basis of such an instrument.

POPULATION: The sample consists of six counselors at the University of Maryland Guidance Clinic together with 204 cases completed by them during the period from November 24, 1947 to April 1, 1948.

PROCEDURE: Two series of statements reflecting either favorable or unfavorable attitudes toward specific aspects of the counseling situation were developed. One series contained negatively phrased statements, the other positively phrased statements. At the end of each terminal interview the counselee was asked to check whether he agreed or disagreed with each statement on one blank. At the same time, the counselor, in private, checked an identical blank in the way in which he would anticipate the counselee would answer it. At no time during the course of the study were the counselors aware of the extent to which they were guessing correctly the reactions of the counselee.

RESULTS: Both series of statements yielded skewed distributions of satisfaction scores toward the favorable end of the distribution; the indices varying from 8 out of 26 statements checked favorably to 26 out of 26. The extent to which counselors could anticipate the responses of the counselees is evidenced by a range of correct guesses from 1% to 100%. Evidence was found for differential success in guessing in relation to a) method of phrasing the statement, and b) aspect of the counseling situation represented.

CONCLUSIONS: The results suggest the feasibility of using the technique for assaying the effectiveness of counseling. It appears that considerable variation is to be expected from counselor to counselor with regard to their ability to correctly identify the verbally expressed attitudes of their counselees.

The author wishes to express his appreciation to Mrs. Martha Maxwell who collected and analyzed the data for this study.

9:35 AM Counseling needs in adult education. *Albert C. Van Dusen, Northwestern University.*

PROBLEM: To determine the needs of individuals who seek counseling in the growing adult education movement by a critical analysis of current client records in an adult counseling program of a university serving a metropolitan community.

POPULATION: 115 adult student clients were investigated. Each was exposed to a 16-week counseling program including testing, individual conferences, and group consideration of such topics as (1) human needs, (2) problem solving methods in conflict situations, (3) how attitudes are formed, and (4) development of a self plan of action.

PROCEDURE: The clients' initial expressions of why they needed counseling were classified into vocational, educational, personal-social or some combination of these problem areas. Shifts in problem areas during counsel-

ing were noted. Score distributions were examined for: Otis Self-Administering Test, Kuder Preference Record, Allport-Vernon Scale of Values, Minnesota Multiphasic Personality Inventory, and Bell Adjustment Inventory. The number of individual conferences and group sessions needed by clients to work out their own plans of action were determined.

RESULTS: Although the program was called vocational counseling, only 51% of the clients initially stated that they were concerned with a purely vocational problem. About one-half of these recognized some additional problem before completion of counseling. Nearly 25% indicated that their problem included some personal-social concern. Test analysis indicated that the adult clients seeking counseling in an evening college are not atypical. Most of them had five or six conferences with an individual counselor and attended about six group sessions while working out their own plans of action.

CONCLUSION: Growing emphasis upon adult education demands development of strong, comprehensive counseling programs to meet vocational, educational, and personal-social needs of adult students. A program combining opportunity for group consideration of selected topics with individual conferences aids mature individuals to develop positive plans of action to meet their problems.

SYMPOSIUM: SOME OF THE PROBLEMS OF VETERANS GUIDANCE

10:00 AM, Saturday, Georgian Room

H. S. CONRAD, Chairman

Participants: Marion Bartlett, Frederick Gaudet, Russell Leiter, Ira D. Scott, Louis Long, Joseph Moore

QUANTITATIVE GUIDANCE STUDIES

12:00M, Saturday, Georgian Room

Volunteered papers selected by the division

FRANCES TRIGGS, Chairman

12:00 M A factorial study of selected instruments for measuring personality and interest. *Wm. C. Cottle, University of Kansas.*

PROBLEM: To determine by factor analysis whether there are any common factors measured by the Minnesota Multiphasic (Short Group Form), the Bell Adjustment Inventory (Student Form), the Strong Vocational Interest Blank, and the Kuder Preference Record.

POPULATION: Four hundred adult males taking all four of the above tests in the veterans testing program at the Psychological Services Center, Syracuse University.

PROCEDURE: Pearsonian correlation coefficients were computed on raw scores of all subtests in the above tests except the question score of the M. M. P. I. (All subjects with raw scores above 20 on the question key, and above nine each on the L and F keys were eliminated

from the study to guard against invalidating results.) Thurstone's complete centroid method was used in the extraction of factors. Centroid loadings were extracted until the standard deviation of the coefficients in the residual matrix was less than the standard error of the average r of the original matrix.

RESULTS: Eight sets of centroid loadings were extracted before this criterion was met. Rotation of these is begun. Results and conclusions will be completed by September, but are not available at present.

12:15 PM The construction and validation of a silent and auditory work-type comprehension reading test. *George Spache, New York University.*

PROBLEM: We will attempt to describe the construction and validation of a pair of parallel reading comprehension tests, the Silent and the Auditory. The Silent takes the common form of measuring comprehension of selections of high school textual materials. The Auditory, which parallels the Silent in length, difficulty, and reading selections, is presented by reading all materials to the students. It is a measure, we believe, of the student's background and potential ability to comprehend high school texts. Its format prevents his actual reading skill from distorting the results, as may happen in the usual type of reading test, and reveals instead the extent to which he is capable of understanding the types of materials to which he will be exposed.

POPULATION AND DATA: Three editions of these tests have been used in experimental forms. Item validities, reliabilities, and intercorrelations with other tests of reading and intelligence have been determined. The experimental editions were validated on a ninth-grade level with a population of approximately 100 students.

PROCEDURE: These validity and reliability data will be interpreted. In addition, studies have been made of the influence of the format of the test and of the role of intelligence upon the results.

RESULTS AND CONCLUSIONS: From these data, the advantages of the use of these two methods of analysis of actual and potential reading ability will be pointed out. Indications for the need for type and possible outcome of remedial work will be given.

12:30 PM An experimental longitudinal study of youth counseling. *John W. M. Rothney, University of Wisconsin, and Bert A. Roens, Arlington, Mass.*

PROBLEM: To determine the effect of counselling high school youth upon their post-school vocational, educational and social adjustments.

POPULATION: One hundred and twenty nine eighth grade youth selected from a population of five hundred counselled subjects were paired on the basis of seven factors with a like number of non-counselled youth in the same school.

PROCEDURE: Intensive study of the experimental subjects was made to determine the counselling needs of

each individual. Counselling procedures were adapted to meet these needs but since the experiment was carried on over a five year period, frequent revision of analyses and procedures were required. Intensive work with parents and school personnel supplemented the youth counselling.

During the senior year in high school, one year after the subjects had left school and again, in some cases, in 1947 (eleven years after initial contact) checks were made upon the vocational, educational and social performances and adjustments of the experimental subjects. Comparisons were made with those of the controls.

RESULTS: Statistical and case data obtained by interview and controlled questionnaires revealed significant differences between counselled and non-counselled subjects in each of the areas studied. Specific study of responses of subjects under the general headings of vocational satisfactions and achievements, educational accomplishments, continuing educational interests, and personal-social adjustments indicate the superiority of the counselled subjects.

CONCLUSIONS: A program of counselling which extends over the five year secondary school period and which is designed to meet particular needs of students makes

significant contributions to the accomplishment of the objectives of the American secondary school.

12:45 PM Separation of sex groups in test reporting. *Alexander G. Wesman, The Psychological Corporation.*

The desirability of presenting separate norms for each sex, and of analyzing the reliability and validity of tests for separate sex groups, has been insufficiently appreciated. The effect of combining sex groups into single norm groups may be to obscure important differences and result in serious misinterpretation of test scores. This is illustrated by such tests as Mechanical Comprehension, in which boys' scores are superior to those of girls; Language Usage, where girls are superior; and other tests frequently used by counsellors.

Separate data for sex groups is also required in the investigation of the reliability and the validity of tests. A test may be quite reliable for one sex group but relatively unreliable for the other sex, despite age and educational equivalence. Validity may also differ from one sex to the other. Data illustrating these points will be presented, and implications of these principles for reporting in test manuals and research papers will be discussed.

DIVISION OF PSYCHOLOGISTS IN PUBLIC SERVICE

BUSINESS MEETING

2:50 PM, Thursday, Parlor D

DIVISION OF MILITARY PSYCHOLOGY

VISUAL PROBLEMS IN EQUIPMENT DESIGN

8:50 AM, Tuesday, Salle Moderne

Volunteered papers selected by the division

ALPHONSE CHAPANIS, Chairman

8:50 AM Area and intensity relations in the perception of radar signals. *Stanley B. Williams, The Johns Hopkins University, and Neil R. Bartlett, Hobart College.*

PROBLEM: The detection of radar signals on an intensity modulated cathode-ray tube screen is essentially a differential brightness discrimination. This experiment was designed to determine precisely the interdependence of area and intensity as they contribute to the making of this discrimination on radar scopes.

OBSERVERS: Two highly trained observers were used.

PROCEDURE: A specially designed electronic signal generator manufactured simulated radar signals in such a way as to permit independent control of the length, width and brightness of the images displayed on the phosphor screen of a 7BP7 cathode-ray tube. Contrast thresholds were determined by a method of adjustment for 64 image

sizes varying from the smallest permitted by the resolution of the tube (essentially a point of light) to a large patch about 3.5 by 7.5 degrees in retinal subtense, which is several times larger than any likely to appear on operating radars. This range is much wider than any heretofore studied. Determinations were made at each of three background brightnesses: approximately 2 ml., 0.1 ml., and less than 0.001 ml.

RESULTS: A family of eight curves shows that the contrast threshold steadily decreases as either dimension of the area is enlarged. The decrease in one dimension (pulse length) is greater than in the other, probably because of different exposure rates inherent in this form of display. The effect of area on visibility can be very great relative to that of other variables affecting signal detection. For example, the advantage of the largest over the smallest area is 20, 23 and 28 db, on a scale of relative visibility, for the darkest, medium, and brightest backgrounds, respectively.

CONCLUSIONS: Variations in image size are a primary factor in the visibility of images produced by signals on certain radar scopes.

ACKNOWLEDGMENT: This research was performed under

Contract N5-ori-166, Task Order I, between the Special Devices Center, Office of Naval Research, and The Johns Hopkins University.

9:05 AM Eye movements of aircraft pilots during instrument flights. *Paul M. Fitts, Aero Medical Laboratory, Wright-Patterson Air Force Base, Dayton, Ohio.*

PROBLEM: In order to further our understanding of how the eyes are used in a task demanding rapid "check reading" and interpretation of complex visual displays, measurements were made of pilots' eye movements while flying by instruments without visual reference to the ground.

POPULATION: Forty USAF pilots, representing a range of experience from "typical" to "expert," were used as subjects.

PROCEDURE: Captain R. E. Jones or Lt. J. L. Milton were in charge of all flights and collaborated in the study. A 35 mm movie camera was used to photograph reflections of pilots' eyes in a small mirror mounted on the instrument panel of a C-45 aircraft. Records were taken on each subject during five different precision maneuvers, and during two blind approaches made using the USAF Instrument Landing System (ILS) and two approaches made with Ground Controlled Approach (GCA).

RESULTS: Reliability of scoring procedures was satisfactory. Eye fixation times, fixation frequencies and per cent of time spent on each of eight instruments were tabulated. Data were analyzed in reference to maneuvers, experience level and individual differences. For the instrument panel and aircraft used, average fixation times for different instruments during an ILS landing approach varied from 0.3 to 0.9 seconds per fixation; different flight and engine instruments were "looked at" from 1 to 30 times per minute; 92 per cent of all fixations were on four instruments; most eye movements were in the horizontal plane; right-left movements occurred as often as those from left to right.

CONCLUSIONS: Average eye fixations on aircraft instruments are from two to three times as long as fixations in reading. It appears that eye movement patterns may be a function of difficulty of interpretation, reading precision necessary, and importance of the displayed data. (Slides)

9:20 AM Speed and accuracy of multi-revolution instrument readings in relation to indicator design. *Walter F. Grether, Aero Medical Laboratory, Wright-Patterson Air Force Base, Dayton, Ohio.*

PROBLEM: Data from aircraft accidents and pilots' reports show that gross errors in reading altimeters and other multi-revolution indicators are a serious accident hazard. The purpose of the present experiment was to determine the causes of such errors in quantitative read-

ing and evaluate other possible indicators for such data requiring great scale length.

POPULATION: The subjects used in this experiment were 97 USAF pilots and 79 college students without aviation training.

PROCEDURE: Nine experimental indicators were presented in printed test booklets, with 12 different settings on each instrument. Beneath each instrument picture was a space in which the subject entered the numerical value of the reading. The average time per reading and the errors for each indicator design provided the data available for analysis.

RESULTS: Variations in indicator design caused very large differences in speed and accuracy of reading. The proportion of pilots' readings in error was 15.9 per cent for the conventional three-pointer altimeter, 3.5 per cent for a pointer-counter combination, and 0.6 per cent for a direct-reading counter. For the same indicators and subjects the time per reading (and recording) was 9.6 seconds, 4.2 seconds, and 2.5 seconds. The correlation between speed and accuracy for the nine different designs was +.91. College students gave virtually the same results as pilots. The conventional altimeter was frequently read 1,000 feet higher than it indicated.

CONCLUSIONS: Among the conclusions drawn are that: (a) the reading of a single numerical value from two or more instrument pointers is a difficult task; (b) such instruments are frequently read too high by a complete revolution of the sensitive pointer; (c) quantitative reading errors on multi-revolution instruments can be reduced considerably by changes in indicator design; and (d) instruments read most rapidly tend also to be read most accurately. (Slides)

9:35 AM Speed and accuracy of reading instrument dials as a function of spectral distribution and intensity of illumination. *S. D. S. Spragg, University of Rochester.*

The experiments to be reported are part of a visual research program under contract with the Air Materiel Command, Wright Field. The research assistance of Milton L. Rock is acknowledged.

PROBLEM: To determine the relative speed and accuracy of reading photographic reproductions of instrument dials as a function of: (1) the spectral distribution of illumination; and (2) intensity.

POPULATION: Approximately 20 young male adults, rigorously screened for visual abilities.

PROCEDURE: Dial reproduction materials developed by Dr. William Kappauf, as well as the essential procedures reported by him, were employed. Mazda light sources were used. Intensity was controlled by means of diaphragms. Spectral distribution was controlled by use of sharp "cut-off" and by narrow-band filters, with most attention being directed to the red and red-orange re-

gion of the spectrum. S's were instructed to read banks of 12 dials as rapidly and as accurately as possible.

RESULTS: The experiments with brightness as chief variable indicated that a sharp improvement in speed and accuracy occurs at approximately .02 foot-lamberts. From .02 to the highest level tested (6.0 foot-lamberts) there was no significant improvement. Results with sharp "cut-off" filters at two brightness levels (.01 and .1 foot-lamberts) indicate spectral "cut-off" has relatively slight effect on speed and accuracy of dial reading. Studies employing narrow band filters are in progress.

CONCLUSIONS: The present results indicate that: (1) when brightness is sufficient to permit clear seeing of dial and pointer, further increases in brightness are relatively unimportant as far as speed and accuracy are concerned. Fatigue effects have not yet been measured. (2) When apparent brightnesses are matched speed and accuracy of dial reading in this situation seem to be but slightly affected by the spectral distributions of light provided by the sharp "cut-off" filters. (Slides)

SYMPOSIUM: PROFESSIONAL CONSIDERATIONS IN ORGANIZED RESEARCH

10:00 AM, Tuesday, Salle Moderne

MORTON A. SEIDENFELD, Chairman

Speakers: A. G. Bayroff, Stuart W. Cook, Angus Campbell, and Arnold M. Small.

Panel: Harold C. Taylor, Jack Buel, Charles I. Mosier, and J. Donald Harris.

Military and civilian research organizations offer exceptional professional advantages in terms of salary, equipment, research budgets, technical and clerical assistance, travel, and relief from teaching. Opposed to these advantages are problems associated with administrative duties, publication policies, library facilities, research freedom, and job specialization. Psychologists working in research organizations will discuss the professional satisfactions and problems in their respective organizations.

BUSINESS MEETING

1:40 PM, Tuesday, Parlor B

SYMPOSIUM: HUMAN BEINGS AS SERVO MECHANISMS

2:50 PM, Tuesday, Parlor A

LEONARD C. MEAD, Chairman

Speakers: Douglas G. Ellson, Franklin V. Taylor, John L. Kennedy, and John R. Ragazzini.

Panel: Walter R. Miles, Paul M. Fitts, W. J. Brogden, Louis D. Hartson, Judson S. Brown, and Robert H. Seashore.

As operators of machines, human beings fill much the

same role as servo-mechanisms which convert feeble signals from sensing devices into appropriate action with greatly amplified power. A comparison will be made of human response characteristics with those of electrical, mechanical, and hydraulic servo-systems. The value this line of investigation may have for improving the designs of man-operated machines, while at the same time achieving greater insight into human behavior, will be discussed.

GENERAL MILITARY PROBLEMS

11:10 AM, Wednesday, Parlor B

Volunteered papers selected by the division

JOHN T. COWLES, Chairman

11:10 AM The psychogalvanic response as an indicator of emotional reaction to personality test items.
Charles N. Cofer, University of Maryland.

PROBLEM: To determine whether the psychogalvanic response is an index of emotional reaction to personality test items.

POPULATION: Twenty-five male college sophomores.

PROCEDURE: The Tarchanoff effect was measured for each S while he responded to a series of items from the Minnesota Multiphasic Personality Inventory (individual form). At a second session, each S was interviewed concerning his responses to certain of the items. To some of these items he had given large psychogalvanic responses; to others, little galvanic response was given. Total scores on the Inventory were determined for each S.

RESULTS AND CONCLUSIONS will be presented in terms of the following method of analysis. The total group of Ss was divided into two sub-groups: One consisted of those Ss who showed high scores on the scales of the Inventory and the other contained the Ss whose scores were within normal limits. These sub-groups are considered as criterion groups, and the emotional significance of both the PGR data and the interview data is judged in terms of comparison of the sub-groups. By such a procedure, "emotional involvement" on the test items can be gauged objectively and more meaningfully than would be possible without an external criterion. Specific aspects of the data to be described comparatively are as follows: amplitude of PGR to all items; amplitude of PGR on items to which "abnormal" verbal responses were given as compared with those on which "normal" responses were given; the apparent emotional significance of the verbal response and PGR as judged by the interview material.

The author wishes to acknowledge the assistance of Mr. A. J. Judson and Mr. D. W. Weick, who collected the data for this study. This investigation was conducted under contract N7-onr-397, Task Order III, between the Office of Naval Research and the University of Maryland.

11:25 AM Accuracy of estimation of aircraft speed. William C. Biel, Aero Medical Laboratory, Wright-Patterson Air Force Base, and Guy E. Brown, Jr., Eastern Washington College of Education.

PROBLEM: To determine the accuracy with which the speed of six types of aircraft could be estimated visually by ground observers, and the effects of target speed, range, elevation, and course direction on this accuracy.

POPULATION: Twenty commissioned officers from the Army Antiaircraft Artillery Officers Replacement Pool at Fort Bliss, Texas.

PROCEDURE: The officers recorded their private estimations of the speed of individual aircraft flying straight-and-level courses which varied in direction, speed, elevation and "least slant range" (within the range of automatic weapons) on different approaches. Aircraft used were the AT-11, B-25, B-26, P-47, P-63 and PQ-14, and each plane was flown at speeds varying approximately from its minimum to maximum.

Basic criterion data gathered from visual tracking and radar range were used for computing ground speed over each course and for checking constancy of speed within each course.

RESULTS: There was a slight tendency for the speed of these aircraft to be overestimated when each plane was flown below its approximate cruising speed and a consistent tendency for the speed to be increasingly underestimated as a plane was flown at higher and higher speeds. The trends indicate that the speeds of pursuit planes were underestimated less than were those of other planes.

Differences in direction of the courses had no significant effect on the accuracy of the estimates.

Consistency of individual differences in estimations varied with types of planes, differences in speed, etc.; these results will be reported.

CONCLUSION: Estimations of aircraft speed are greatly influenced by the speed that a plane is flown and by knowledge of the performance characteristics of the aircraft. These errors are of such a magnitude as to introduce large errors in antiaircraft gunnery when gun sights are used where speed of the target must be estimated. (Slides)

11:40 AM Optimal design factors for making settings on a linear scale. William Leroy Jenkins, Lehigh University.

PROBLEM: To determine the optimal ratio between knob and pointer movement in making settings on a linear scale, and to investigate the influence of associated design factors.

POPULATION: One female and five male subjects, three of them former radar operators.

PROCEDURE: Apparatus was designed to measure the time required to make settings on a linear scale using a rotating knob. The accumulated action potentials from the subject's active forearm were also measured. Vari-

tions of ratio, tolerance, knob diameter, and backlash were systematically introduced.

RESULTS: The optimal ratio for all subjects is approximately one inch of pointer movement for one complete turn of the knob. This remains true whether the subject uses the right or the left hand. As long as the optimal ratio is used, more severe tolerance requirements (within reasonable limits) do not materially increase either the time or the action potential developed. In terms of time, knob diameter makes little difference, as long as the knob is of a size that can be conveniently grasped. The least action potential is developed, however, with knob diameters between two and three inches. Backlash, even in excessive amounts, does not affect either time or action potential when the optimum ratio is used.

This research was sponsored by the Watson Laboratories, Army Air Forces, Materiel Command. The aid of Minna B. Connor in conducting the experiments is acknowledged. (Slides)

MEASUREMENT AND PREDICTION OF PROFICIENCY

10:00 AM, Thursday, Parlor A

Volunteered papers selected by the division

JOHN W. MACMILLAN, Chairman

10:00 AM Techniques for measuring the proficiency of military aircraft mechanics. Howard J. Hausman and Philip H. Mitchell, USAF, Strategic Air Command.

An experimental battery of aptitude tests is now being routinely administered to Air Force recruits. Some of the men tested subsequently attend aircraft mechanic schools and are assigned to aircraft maintenance jobs. In order to validate the experimental selection tests for mechanics, measures of on-the-job proficiency were judged to be superior to previously used criteria of technical school success.

Devices and procedures for securing criterion data were based upon analyses of results obtained in previous investigations of aircraft mechanic proficiency conducted in the Strategic Air Command. Success on the job is considered to involve: (1) Demonstrable skill in performing job operations; (2) Possession of necessary technical job knowledge; (3) Manifestation of efficient work habits and favorable work attitudes; and (4) Adjustment to the job in a military setting.

In order to measure the above components, the following instruments and related procedures have been developed for experimental tryout:

1. A check-list of maintenance tasks to be used independently by two trained evaluators for recording observations of the mechanic's work.

2. A work habits and attitudes scale, for independent ratings by the supervisors in closest contact with the mechanic's work. The items in the scale are written in

terms of specific instances of mechanics' behavior, obtained from an earlier field study.

3. A personal information blank, on which the mechanic records data related to his background and interests.

4. A brief rating device for use by the supervisor in assessing the mechanic's overall value to the unit.

In process of development is a technical information test.

A report will be made on the feasibility of these measures and their associated techniques, as applied to mechanics on the job. Experimental try-out on approximately 100 mechanics will form the basis for discussion.

10:15 AM The development of proficiency measures for military technical specialists. *Richard H. Henneman, University of Virginia.*

Extensive research has been conducted in the Strategic Air Command on the development of proficiency measures for aircraft mechanics. The findings are believed to be generally applicable to military technical specialists. Four principal sources of proficiency data were systematically investigated: (a) technical information tests; (b) practical performance tests ("work samples"); (c) work production records; (d) subjective assessment of worker proficiency (by supervisors and associates).

Each of these four types of proficiency data were subjected to a three-fold evaluation analysis as follows: (a) theoretical advantages; (b) critical standards (necessary conditions to be met in order to provide good measures of job success); (c) practical limitations (when applied to workers on the job). Because of practical limitations, some potential proficiency data (e.g., practical performance tests and work production records) were found to be less promising than others. Statistical analysis of data obtained from several types of subjective assessment (when based on concrete evidence of job performance and secured through interviews) revealed satisfactory distribution and reliability.

The following conclusions appear warranted. The theoretical advantages of potential proficiency data must be evaluated in terms of critical standards and practical limitations when actually applied to the measurement of worker proficiency. When critical standards are defined and satisfied, potential proficiency data afford much better measures of on-the-job success than when such standards are ignored. Future research on the development of proficiency measures for military technical specialists should place greater emphasis on determining critical standards in advance of actual collection and analysis of data. Such an emphasis should substantially reduce the amount of purely "exploratory" investigation which has usually characterized research on proficiency data in a new field.

10:30 AM Comparison of Army and Navy classification tests. *Julius E. Uhlaner, Personnel Research Section, AGO and Everett G. Brundage, Bureau of Naval Personnel.*

PROBLEM: With the view toward possible coordination of classification instruments of the Army, Navy and Air Force, the question was raised: "How does the Army Classification test battery compare with the Navy classification test battery?"

POPULATION: The population consisted of 1052 naval recruits.

PROCEDURE: Both the Army and Navy batteries of tests were administered to the above population. This population was split in two halves and the order of presentation counterbalanced to control the effects of practice.

Conversion tables were computed for each of the Army tests in terms of Navy standard scores and for each of the Navy tests in terms of Army standard scores.

Intercorrelation coefficients were computed for 18 variables: 8 Navy sub-tests, 9 Army sub-tests and years of education. In addition, factor analyses were conducted independently on the two samples of the total population.

RESULTS: Conversion tables were constructed for each of the Army and Navy classification tests. Tables were prepared for the Army tests in terms of Navy standard scores and for the Navy tests in terms of Army standard scores. The Army and Navy classification test batteries were measuring common factors primarily. In addition, there were some specific factors primarily defined by the information tests but which were not too well extracted in this study.

CONCLUSION: Through the use of the conversion tables developed in this study, it is now possible to use both Navy and Army standard scores for each of the Army or Navy classification tests. In terms of the factors extracted from each of the Army and Navy batteries of tests there is considerable similarity and it should be possible to consolidate classification batteries in the future. There are, however, many administrative and other technical problems which must be solved before coordination of classification instruments is made possible.

10:45 AM Validation of job proficiency tests for the Army food service field. *Charles H. Goodman, Personnel Research Section, AGO.*

PROBLEM: To determine the validity of objective written job knowledge tests which are designed for use in a battery of instruments for selecting the best qualified enlisted men for promotion.

POPULATION: The validation population consisted of 1861 enlisted men assigned to jobs in the food service field.

PROCEDURE: Criterion data on men in lower level jobs consisted of buddy ratings. Men in higher level posi-

tions were rated by subordinates on terms of scaled free response opinions about quality of work. Additional data involved appraisal by subject matter experts of each item in terms of difficulty, adequacy of response and applicability. Items and total scores were analyzed against the criteria and findings analyzed in terms of experts' reviews of the items.

RESULTS: The preliminary forms of the tests contained a larger number of easy items than the subjective appraisal had indicated. These items apparently tended

to pull down the over-all validity of the preliminary tests. The validity coefficients for the final tests were improved appreciably by eliminating the easy items as well as those specific items with negative and zero validity.

CONCLUSIONS: 1. Objective written tests possess validity as indicators of quality of job performance for such jobs as cooks, bakers and mess steward. 2. Judgments of Test Experts and Subject Matter Experts with respect to the difficulty level of the test items were not consistent with the results of item analysis against criterion data.

DIVISION ON MATURITY AND OLD AGE

BUSINESS MEETING

5:00 PM, Wednesday, Parlor D

SYMPOSIUM: CURRENT RESEARCH PROGRAMS IN THE PSYCHOLOGY OF AGING

10:00 AM, Thursday, Parlor B

OSCAR J. KAPLAN, Chairman

Nathan W. Shock: The program of the Gerontological Unit of the U. S. Public Health Service.

Ernest W. Burgess: A long range longitudinal study in aging at the University of Chicago.

Martin L. Reymert: The Mooschaven Laboratory for Research in the processes of aging.

MATURITY AND OLD AGE

1:40 PM, Thursday, Parlor D

Volunteered papers selected by the division

OSCAR J. KAPLAN, Chairman

1:40 PM Measuring personal adjustment in old age.
R. J. Havighurst and E. W. Burgess, University of Chicago.

PROBLEM: To devise a measure of personal adjustment in old age.

POPULATION: Total group of 2,982 schedules, filled out by persons sixty years of age and over and small groups selected from this sample for testing the reliability and validity of the measures of personal adjustment in old age.

PROCEDURES: The exploratory portion of the study was devoted to securing a limited number of case studies, the devising of a preliminary schedule and testing it out. The schedule was distributed by mail and by personal contacts and by interviews. Where feasible, field workers or other observers filled out a check list and a pen portrait on the subjects.

RESULTS: Two measures of adjustment in old age were derived from the study. The first is an index of activities, indicating the participation of the subject in the chief sectors of experience and the second is an index of

attitudes in different fields, such as economic security, family, friends, work, recreation, religion and feelings of usefulness.

CONCLUSIONS: There is a correlation between reports by older persons of their participation in activities and their subjective attitudes toward them. The attitude index was correlated with ratings by observers upon their social adjustment.

The collaboration of Ruth C. Cavan is acknowledged.

1:55 PM Attitudes toward retirement and old age.
Albert R. Chandler, Ohio State University.

PROBLEM: To investigate attitudes toward retirement and old age held by persons in middle life and in old age.

POPULATION AND PROCEDURE: A questionnaire was prepared including the 14 questions used by G. Stanley Hall and reported in his *Senescence* (1923), and adding 15 other questions. This questionnaire was sent to (a) 200 persons listed in *Who's Who in America*, 1946-47, half of them aged 70 or older and half of them in their forties; (b) 200 alumnae of Vassar College in the classes of 1897 and 1922; (c) 100 members of two professional men's clubs in Columbus, Ohio, about half of whom were college professors; (d) 20 emeritus professors of Ohio State University. About 120 replies were received. The comparative frequency of different replies is noted.

RESULTS AND CONCLUSIONS: Few of the middle-aged respondents showed much imagination regarding their later years. Most of them expected that they would be sufficiently occupied, after retirement, with one or more of such pursuits as gardening, golf, reading, and travel. Some were resolved never to retire unless forced to do so by ill health. A majority planned to continue living in their present homes. Few respondents past 70 admitted that they had any temptations or any serious regrets; few admitted that they were increasingly irritated by opinions and attitudes of others; few relied on doctors except in emergencies; few claimed to derive benefit from the clergy. There were sharp differences of opinion regarding systems of compulsory retirement. Responses to

Hall's questions were mostly similar to those he received 25 years ago.

2:10 PM Age trends in adjustment during the adult years as reflected in happiness ratings. *Raymond G. Kuhlen, Syracuse University.*

PROBLEM: This is one of several studies underway at Syracuse University having for their purpose the assessment of personal adjustment during the adult life span and the determination of adjustment problems typical of various ages.

POPULATION: Approximately 300 adults, ranging in age from the 20's to over 80 and about equally divided among married men, married women, and single women, were studied.

PROCEDURE: Each subject was asked in interview to draw on a chart a line representing his level of happiness at various ages in his life thus far. Up to this point the interview was relatively unstructured, but once the "happiness curve" was sketched questions were directed to the circumstances causing a rising or dropping curve. Indexes of happiness and relative frequency of happy and unhappy episodes were computed for each semi-decade and reasons for these episodes analyzed.

FINDINGS: Happiness ratings tend to increase to the 20's and 30's and to decrease thereafter. Both happy and unhappy episodes were most frequent in the 20's, occurring with decreasing frequency thereafter. Major causes of happiness among married men and women were related to romance, marriage, family. Among married men and unmarried women occupation constituted a major source of happiness. Bereavement and poor health were major sources of unhappiness for all groups studied, while occupational difficulties caused much unhappiness for married men and single women. Various age groups differed in the reasons they gave for happy and unhappy episodes.

CONCLUSIONS: The procedure employed seemed useful as a means of quantifying certain aspects of the life history. Young adulthood is the happiest period of life. Each age period is characterized by particular problems, but the 20's appear to need particular study—perhaps more so than adolescence. The importance of studying age trends against a background of cultural events is apparent.

2:25 PM Attitudes and activities of the middle-aged and aged. *L. Pearl Gardner, Spring Grove State Hospital.*

PROBLEM: To study the attitudes and activities of the aged in their interpersonal relationships in the homes of the middle classes.

POPULATION: A group of 193 aged people living with relatives for the most part. More than $\frac{2}{3}$ were 70 years and over; and $\frac{2}{3}$ were women.

PROCEDURE: Information was gained by interview with questionnaire.

RESULTS: Health was reported to be good with only 1 in 5 in poor health, with an average of 2.6 kinds of medicine taken. However half of them talked about their medicines and aches. Happiness was reported by all but one in ten with a strong positive relationship to economic independence. Most of them felt their dispositions had remained the same; however, more than two-thirds felt their worst fault to be irritability and quick temper. Strong social interests were shown by 80%. Two-thirds or more spontaneously remarked that they felt unwanted and in the way. Two-thirds of them reported family criticisms centered mostly about the interference of these old people in family affairs and somewhat about their personal habits. Most of them indulged in daydreaming of the past.

CONCLUSIONS: Frustrating conflicts of the aged center to a large extent in dominance relationships and social isolation. There is need for adequate therapy for the aged to adjust happily to their changed social situations.

SYMPOSIUM: PSYCHOPHYSIOLOGICAL CHANGES WITH AGE

4:00 PM, Thursday, Library, American Academy
of Arts and Sciences

Jointly organized with the Conference on Aging of the American Academy of Arts and Sciences.

ROSS A. MCFARLAND, Chairman

Departmental and other artificial lines among areas of knowledge often result in the failure of various specialists to see problems and findings in their larger implications. Approaches are apt to be narrow and provincial; integrated understandings are unlikely. The purpose of the two joint symposia is to afford opportunity for exchange of ideas and information, and thereby to stimulate inter-disciplinary thinking regarding problems of aging. Representatives of psychology, economics, sociology and the medical sciences will form round tables for the discussion of problems of common interest. Participants will be announced later.

MATURITY AND OLD AGE

1:40 PM, Friday, Parlor B

Volunteered papers selected by the division

RAYMOND G. KUHLEN, Chairman

1:40 PM Preliminary data on life histories of senescent twins. *Franz J. Kallmann, New York State Psychiatric Institute.*

PROBLEM: The main objective has been to study the range of variations in the capacity for biological adaptation and emotional adjustment to aging and longevity under experiment-like conditions, in order to obtain

comprehensive data on the interaction of factors producing significant differences in the ability to maintain a state of health until the period of senescence.

POPULATION: A consecutive series of about 2,000 twin index cases over 60 years of age, collected from both the residents of institutions and the general population of the State of New York and adjacent areas.

PROCEDURE: Complete life histories can be obtained on all index cases with special emphasis on length of life, senile manifestations, intellectual deterioration, general adjustment and causes of death and their possible relationships to variations in age at pubescence, mate selection, philoprogenitiveness, and occupational histories.

RESULTS: The available data show that the genetically determined physical and intellectual likenesses of monozygotic twin partners and their similarities in personality development and general adaptability have a tendency to persist throughout life and in many instances are able to remain expressed during senescence to a remarkable degree, even against the potential effect of modifying influences arising from different environmental circumstances.

CONCLUSIONS: 1. Genetically controlled capacities play a basic role in determining the variable ability to maintain a state of physical and mental health until and throughout the period of senescence.

2. The variable length of human life can be shortened either by outside factors or by inadequate utilization of constitutional potentialities, but it cannot be extended beyond the optimum limit of man's vital capacity.

3. Adjustment to the basic aspects of aging and senescence seems to be related to man's biological capacity for survival and to his adaptability to problems of life in general.

Lissy Feingold has collaborated in this study. (Slides)

1:55 PM Regression to childhood concepts in old age.

Wayne Dennis, University of Pittsburgh.

PROBLEM: To determine whether senile deterioration results in a return to childhood concepts.

POPULATION: Fifty persons, ages 50-80, residents of homes for the aged.

PROCEDURE: Piaget's test of animism as standardized by Dennis and Russell was employed to measure animistic concepts. Mental level before deterioration was estimated by the Stanford-Binet vocabulary. Present mental level was measured by the Babcock-Levy.

RESULTS: Level of animistic thinking approximated level of present functioning more closely than it approximated former mental level.

CONCLUSION: There is some regression toward earlier stages of animistic thinking in deteriorated seniles.

Betty Mallinger collaborated in this experiment.

2:10 PM The relation of dark adaptation to age. *James E. Birren, Baltimore City Hospitals.*

PROBLEM: To investigate the process of aging as manifested in changes in dark adaptation.

POPULATION: Males living in the Baltimore Infirmary. These men were all ambulatory and did not require hospitalization. Regulations for admission require that they be able to care for themselves but lack financial means to maintain themselves in the community. A total of 66 men, age 43-80, were studied. In addition, 25 Navy enlisted men, age 18-23 were used as a control group in preliminary observations.

PROCEDURE: Preliminary observations consisted of dark adaptation measurements on a Hecht Shlaer adaptometer and measurements on a low brightness scotometer developed in the United States Navy. Subsequent observations included a detailed ophthalmological examination in addition to dark adaptation measurements with dilated pupils.

RESULTS: The preliminary findings indicated that the minimum light threshold of the dark adapted eye was significantly poorer in the aged men than in the young control subjects. The central scotoma (functional blind area) was significantly larger in the aged men. Subsequent observations not only confirmed the original deficit in the older men but revealed that a large proportion of the aged men had structural defects in their eyes. The presence of structural defects was frequently associated with poor dark adaptation although a small number of men had no observable anatomical changes which might account for their poor dark adaptation. The range of individual differences was more than twice as great in aged men than in the young controls. Despite the marked average deficit in dark adaptation in the aged men, there were a few men in the individuals of advanced age group that manifested little or no impairment.

CONCLUSIONS: The light sensitivity of the human eye decreased with age although the great range of individual differences suggests that the rate of change in the function is highly variable in different individuals. Numerous structural defects may be seen in the eyes of aged persons which in many instances may account for the poor dark adaptation observed. The presence of such defects does not preclude the possibility of functional aging without manifest anatomical change.

The collaboration of Malcom Bick and Charlotte Fox is acknowledged.

SYMPOSIUM: PROBLEMS OF ADJUSTMENT IN OLD AGE

4:00 PM, Friday, Library, American Academy of
Arts and Sciences

Jointly organized with the Conference on Aging of the
American Academy of Arts and Sciences

WILLIAM MALAMUD, Chairman

BANQUET

6:30 PM, Friday, Parlor A

PSYCHOMETRIC SOCIETY

BUSINESS MEETING

11:10 AM, Wednesday, Parlor C

Symposium: Scales of Measurement

2:50 PM, Wednesday, Salle Moderne

Organized by the Division of Theoretical-Experimental Psychology, the Division of Physiological and Comparative Psychology, and the Psychometric Society.

SAMUEL A. STOFFER, Chairman

Speakers: S. Smith Stevens, Clyde H. Coombs, Charles I. Mosier

Discussants: Harold Gulliksen, Quinn McNemar, C. F. Mosteller

PSYCHOMETRICS

1:25 PM, Thursday, Parlor B

Volunteered papers selected by the Society

JACK W. DUNLAP, Chairman

1:25 PM On the statistics of ratios. *Philip H. Du Bois, Washington University.*

A rational investigation of certain statistical properties of ratios is reported.

Let the numerator variable of a ratio be denoted as X , and the denominator variable as Y . Using Yule's formula for the mean index, which is derived on the assumption that the deviations of the variables are small in comparison with the means, it can be shown that a ratio has a mean of unity when the means of the variables are equal and when $\sigma_Y = r_{XY} \sigma_X$. When these relationships obtain the ratio correlates zero with the denominator or Y -variable.

That zero correlation with the base is an important property of a ratio such as the I. Q. (in the range in which the correlation between M.A. and C.A. is linear) is readily understood. In the computation of I.Q.'s a measure of relative brightness is desired that is independent of age, the denominator variable.

Ratios meeting the criteria outlined above correlate 1.00 with scores derived by three alternative procedures for combining two scores so that the resultant score will correlate zero with the Y -variable:

1. The raw score in X divided by the predicted score in X , as found from an ordinary two-variable regression equation.

2. A difference score found when the X -variable is converted to standard scores with the arbitrary mean equal to M_Y and the arbitrary standard deviation equal to σ_Y/r_{XY} , and when the Y -score is subtracted from this standard score in X .

3. The series of residuals found when each X -score predicted from an ordinary regression equation is subtracted from the raw score in X .

By all of these methods the derived scores correlate $\sqrt{1 - r_{XY}^2}$ with the X -variable.

The relationship of these derived scores to partial correlation is pointed out.

Applications of these methods of computing derived scores to educational and psychological measurement are noted.

1:40 PM An item selection technique based on raw error scores. *Philip Ash and Ruth C. Ash, Pennsylvania State College.*

PROBLEM: To express the relative discriminability of each item in a test as a simple and direct function of the number of errors made by members of the tested population.

PROCEDURE: Derivation of a formula for an index of item discrimination based on distribution of errors for each item by each quarter of the tested population, including establishment of a reference value for evaluation of each item value. Also, application of the formula in the item analysis of three tests which were also item-analyzed on the basis of biserial r or the phi-coefficient, and comparison of the selectivity of the three techniques.

RESULTS: A Discrimination Index

$$\left(D.I. = \frac{4e_1 + e_2 - e_3 - 4e_4}{e} \right),$$

(where e_1, e_2, e_3, e_4 = no. of errors on the item in each quarter, e = total no. of errors on the item) was derived. A simplified data analysis sheet is presented. Comparison of the results on three tests from the use of D.I. and biserial r or the phi-coefficient showed that D.I. varies in magnitude approximately as the biserial r does. The D.I. does not, however, select all the same items and it tends to discriminate more than the other two techniques in favor of items of low difficulty. The calculation of D.I. required appreciably less time than the calculation of either the phi-coefficient or biserial r . CONCLUSIONS: A promising somewhat simpler index of item discrimination has been derived that merits experimental application to ascertain its values and limits.

1:55 PM A method for scaling ability test items in difficulty taking item unreliability into account. *Ledyard R. Tucker, Educational Testing Service.*

PROBLEM: Previous methods of scaling items in difficulty stem from the assumption that each item is a perfect measure of the common ability shared with other items being considered. This assumption has been removed in the following development.

THEORETICAL DERIVATION: Three assumptions are made:

a. Individual differences on a single ability underlie the variations in performances on all items being considered.

b. Each sample of individuals considered is normally distributed on the scale of ability.

c. The probability that individuals at each level of ability will give the correct answer to an item is related to the level of ability by the integral of a normal curve.

Two parameters can be used to characterize each item, j , the mean, t_j , and standard deviation, s_j , of the normal curve whose integral is taken in assumption c. t_j is here taken as an index of item difficulty. s_j is related to item reliability.

Consider a single sample of individuals. The origin and unit of measure on the scale of ability can be adjusted so that the sample has a zero mean and a unit standard deviation. The table of tetrachoric intercorrelations among the items should have a single factor with loadings a_j . The s_j 's and t_j 's can then be found by the equations:

$$s_j = (1 - a_j^2)/a_j^2, \\ t_j = x_j/a_j,$$

where x_j is the abscissa of the point for which the area under a unit normal curve and to the right of the point is equal to the proportion of individuals in the sample who gave the correct answer to item j .

When two samples are considered, the s_j 's and t_j 's can be found for each sample separately. The s_j 's in the two samples should be proportionate and the t_j 's should be linearly related with a slope equal to the constant of proportionality of the s_j 's. These relations not only constitute a check on the applicability of this system to the items and sample being worked with, but also yield the transformation of item parameters from one sample to the other. This is important where new items are given to the second sample and it is desired to state their statistics in terms of the first sample.

2:10 PM A general approach to the problem of the population control variable. *Richard H. Gaylord and John B. Carroll, Personnel Research Section, AGO.*

INTRODUCTION: The population control variable is defined as a variable identifying sub-populations in which the application of a multiple regression equation optimum for the entire population is inappropriate. Examples of variables whose population control effect has been recognized and evaluated on a priori grounds are mentioned in illustration. Examples are drawn from the research areas of personnel selection, experimental psychology and personality dynamics. The loss of efficiency in research using a priori population control variables is demonstrated. The problem is generalized to include

first order and composite variables whose population control effect is unknown prior to analysis.

PROCEDURE: A multiple regression equation is derived including the assumption that any variable in the analysis may have population control as well as predictor effect.

CONCLUSION: On the basis of the more general regression equation derived it is shown that the inclusions of product and cross products of the variables in a multivariate analysis makes it possible to identify and use the population control effect of all crucial variables.

2:25 PM An analysis of factors in physical proficiency. *Hubert E. Brogden, Harry H. Harman, Personnel Research Section, AGO.*

PROBLEM: To come to a better understanding of evaluative and predictive measures of physical proficiency. POPULATION: A group of 217 Cadets in the Class of 1949 at the U. S. Military Academy who were enrolled in classes in physical education courses.

PROCEDURE: Thirty-one variables relating to physical proficiency were considered. These included measures of height, weight, six course grades in physical education, twenty-two tests of physical proficiency, and a rating of general physical aptitude by fellow cadets. The specific tests of physical proficiency included such measures as 300-yard run, obstacle course, dips, chins, soft ball throw, and high jump.

Product-moment correlation coefficients were computed among the 31 variables and eight centroid factors were obtained employing Thurstone's cluster centroid procedure. In attempting to rotate this preliminary solution to simple structure, it became apparent that such a final solution would involve oblique factors with implicit second-order general factors. In order to maintain the greater simplicity of an orthogonal framework, a modification was introduced in the conventional rotation procedure. This variation had the effect of combining the first-order oblique factors and the second-order general factors into an orthogonal solution approximating simple structure, but involving three additional factors.

RESULTS AND CONCLUSIONS: Eleven orthogonal factors were obtained from the analysis of thirty-one measures of physical proficiency. The factorial solution constitutes a basis for the interpretation of the factors and of the characteristics measured by the three variables.

PRESIDENTIAL ADDRESS

5:00 PM, Thursday, Assembly Room

IRVING LORGE: Words, Words, Words

BANQUET

6:00 PM, Thursday, Parlor A

MEETINGS OF RELATED GROUPS

CONFERENCE ON TRAINING OF CLINICAL
PSYCHOLOGISTS*9:00 AM to 5:30 PM, Sunday, Assembly Room*

Organized by the United States Veterans Administration and the United States Public Health Service. Sponsored by the Committee on Training in Clinical Psychology of the American Psychological Association.

OPEN HOUSE: CLINICAL PSYCHOLOGISTS
OF THE VETERANS ADMINISTRATION*5:00 PM, Monday, Assembly Room*THE AMERICAN BOARD OF EXAMINERS
IN PROFESSIONAL PSYCHOLOGY*2:50 PM, Tuesday, Salle Moderne*

Informal Report and Open Discussion

SOCIAL HOUR: PERSONNEL RESEARCH
SECTION, AGD*5:00 PM, Tuesday, Parlor B*INTERNATIONAL COUNCIL OF WOMEN
PSYCHOLOGISTS*7:30 PM, Tuesday, Parlor B*

Open Meeting: What Should Be the Role of Women Psychologists in the Present International Crisis

ALICE I. BRYAN, Chairman

8:30 PM, Tuesday, Parlor B

Business meeting

LUNCHEON: UNIVERSITY OF WASHINGTON

12:20 PM, Friday, Cafe Rouge

LUNCHEON: THE OHIO STATE UNIVERSITY

*12:20 PM, Friday, Parlor C*SYMPOSIUM: PRESENT STATUS OF VISUAL
SCIENCE IN THEORY AND PRACTICE*2:50 PM, Friday, Parlor B*

Organized by the APA Delegates to the Inter-Society Color Council

HARRY HELSON, Chairman

Participants: Sidney M. Newhall, Elsie Murray, Forrest L. Dimmick, Michael J. Zigler, H. R. Blackwell, Jozef Cohen, and Robert W. Burnham.

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CLINICAL TRAINING FACILITIES: 1948

REPORT OF THE COMMITTEE ON TRAINING IN CLINICAL PSYCHOLOGY¹

THE Committee on Training in Clinical Psychology was instructed by the Board of Directors of the American Psychological Association in March 1947, to prepare a recommended program for training in clinical psychology, and to make an evaluative visit to each university offering doctoral study in this area. The preparation of the recommended training program was accomplished by September, 1947. The report was approved by the Council of Representatives, and was published (*AMERICAN PSYCHOLOGIST*, 1947, 2, 539-558).

In further line with its instructions, the Committee next undertook the tasks associated with the formulation of standards of universities offering training in clinical psychology and with the study and visiting of these institutions. It held a preliminary meeting in Detroit on September 9, and a more extended meeting in Chicago, October 10-12, 1947. On the basis of plans made at these meetings, questionnaire forms to be sent to the institutions were developed and circulated, schedules for visits were organized, associate visitors selected, and arrangements made with the universities for visits.

Despite many difficulties, it was finally possible to arrange for the visits during the month of February and the first few days of March, 1948. On March 6-8, 1948, the Committee held a meeting in Chicago at which the material supplied by the universities and the reports of the personal visits of Committee members and associate visitors² were

studied intensively. In its evaluation procedure, the Committee's report on training was used as a general guide only. There was no expectation that any center should conform in every detail. The Committee recognized that programs varying substantially in detail might still be directed toward the same fundamental goals.

The Committee decided upon the following two principles of action:

1. All departments accredited during 1947-1948 by the Sears Committee (*AMERICAN PSYCHOLOGIST*, 1947, 2, 199-205) would be retained on the accredited list during 1948-1949 (unless any should voluntarily withdraw from the training of clinical psychologists). All departments would be informed, however, of any apparent deficiencies in their programs, if such were manifested in their reports or the reports of visitors³. The Committee might recommend reclassification, following visits in 1949, of some institutions on the list, but in no case would such action affect status before 1949-1950. Since a full year would elapse after the time that notice was given of a possible change in classification, the universities would have an opportunity to strengthen their weaknesses and they would be protected against action based on temporary circumstances or upon faulty reporting of the situation.

2. No department that did not have accredited status during 1947-1948 would be accredited for 1948-1949 on the basis of the review made in February-March 1948. Institutions offering promise for the development of programs in the very near future would be notified that they were candidates for accreditation, and, following a second

¹ This report has been approved by the Board of Directors of the American Psychological Association.

² The Committee is deeply indebted to the following persons who so freely gave of their busy time without remuneration to help the Committee in its visits: Adams, Donald K.; Bernreuter, Robert G.; Challman, Robert; Child, Irvin L.; Crawford, Meredith P.; Donahue, Wilma T.; Estes, Stanley G.; Farnsworth, Paul R.; Hall, Calvin S.; Halstead, Ward C.; Heiser, Karl F.; Hovland, Carl I.; Hunt, J. McV.; Hunt, William A.; Hutt, Max L.; Irwin, Francis W.; Kelly, George A.; Lindsley, Donald B.; Louttit, C. M.; Macfarlane, Jean W.; McGregor, Douglas M.; MacKinnon, Donald W.; Marquis, Dorothy P.; McCarthy, Dorothea; Miller, James G.; Moore, Bruce V.; Munn, Norman L.; Rogers, Carl R.; Taylor, Howard R.; Tolman, Ruth S.; Warren, Neil D.; White, Robert W.; Wolfe, John B.; Zener, Karl E.

With very few exceptions, it was possible to arrange for two visitors for each university.

³ The study of the institutions revealed very wide variations in the quality of the offerings. The institutions have been divided into two groups as a result of the Committee's evaluation of the extent of noted deficiencies. Each institution has been informed of the group in which it was placed. An earlier decision to publish this classification has been reconsidered because of the evident desirability of giving the universities concerned an opportunity to remedy deficiencies in their programs or clarify misunderstandings on the part of the Committee.

review in 1949, might be added to the accredited list. Other institutions offering promise of the development of programs only in the more distant future would not be accepted as candidates for accreditation at the present time.

In line with these policies, the Committee lists below the institutions originally accredited in 1947-1948, whose accreditation automatically continues for 1948-1949:

University of California (Berkeley)	New York University
University of California (Los Angeles)	Northwestern University
Catholic University	Ohio State University
University of Chicago	University of Pennsylvania
University of Cincinnati	Pennsylvania State College
Clark University	University of Pittsburgh
Columbia University (Teachers College)	Princeton University
Duke University	Purdue University
Fordham University	University of Rochester
Harvard University	University of Southern California
University of Illinois	Stanford University
Indiana University	Syracuse University
State University of Iowa	Tulane University
University of Kansas—Menninger (for VA only)	Washington University (St. Louis)
University of Kentucky	University of Washington (Seattle)
University of Michigan	Western Reserve University
Michigan State College	University of Wisconsin
University of Minnesota	Yale University

One of the 37 institutions (Columbia University, Department of Psychology) accredited for training for 1947-1948 by the Sears Committee is not included in the above list since it has announced a decision to discontinue the program. Another institution in this group (Syracuse University) had failed to return its forms before the Committee meeting and hence was not visited or evaluated. In line with our stated policy, it is included in the list.

The following institutions have been accepted by unanimous vote of the Committee as candidates for accreditation in 1949-1950. This listing does not, however, guarantee acceptance after review early in 1949.

Boston University
University of Colorado
University of Kansas
University of Nebraska

University of North Carolina
University of Tennessee
University of Texas

Both groups of institutions have been called to the attention of the Veterans Administration and the U. S. Public Health Service for consideration in the planning of their training programs and training grants.

The present year has necessarily been one of experimentation. On the basis of the experience acquired, the Committee believes that in the future, accreditation should be for a term of years subject to periodic review. The Board of Directors of the APA has authorized the appointment of an administrative officer for the Committee whose main responsibility would be to make extended visits to the universities and to report on them to the Committee. Such an arrangement would permit the visits to be spread over a year and would enable a Committee member to accompany the administrative officer on his visits, thus providing the benefit of having two evaluators. The procedure of going over the data with the department chairman in person at the end of the visit would be feasible under these circumstances. After the reclassifications for 1949-1950 are set up it is hoped that a policy of periodic revisits every 3 or 4 years may be established.⁴ Such a program would allow for a greater stabilization of plans by the universities and reduce the burden both on the universities and on the Committee.

Respectfully submitted,

ERNEST R. HILGARD
E. LOWELL KELLY
BERTHA LUCKEY
R. NEVITT SANFORD
LAURANCE F. SHAFFER
DAVID SHAKOW, *Chairman*

⁴Suggestions along these lines appeared in the report of the Policy and Planning Board for 1948 (AMERICAN PSYCHOLOGIST, 1948, 3, 187-193).

CRITERIA FOR GRADING PSYCHOLOGY STUDENTS IN PRACTICUM COURSES

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WITH the present widespread programs for the training of clinical and applied psychologists, the clinical practicum has become virtually an accepted fixture in psychology curricula. If the practicum is to serve the student most effectively, it is desirable that it do more than provide him with experience in the application of psychological principles. It can serve also as an evaluating situation in which the student's

objective information about himself and his use of psychological methods can be presented to him through his grades.

In the majority of practicum courses the grading of the students is on highly subjective grounds, because objective grading has usually been done with information items. Furthermore, even if a test of information were used, it would not differentiate adequately between failing and passing

INDIVIDUAL STUDENT RATING IN CLINICAL PRACTICUM

Student's name _____
Grade in course _____
Hours credit _____

Date _____

Rated by: _____
(Omit on student's copy)

No. of practicum hrs. previously acquired _____

KEY TO RATINGS:

2 means "improvement is necessary"
1 or 0 means "markedly inadequate"

5 is excellent
4 is good
3 is average

1. Appearance
 - a. Appropriateness of dress
 - b. Personal hygiene (nails, cleanliness, makeup)
 - c. Professional bearing or dignity
2. Language
 - a. Modulation of voice
 - b. Appropriateness of word choice
 - c. Speech handicaps
3. Apparent intellectual functioning; apparent reasoning ability
4. Personal adjustment
 - a. Response to suggestion and criticism
 - b. Apparent emotional stability
 - c. Apparent anxiety or inferiority feelings
 - d. Adjustment to other clinicians
 - e. Tactfulness
5. Taking of responsibility
 - a. Willingness to accept responsibility
 - b. Ability to work independently
 - c. Initiative or originality in seeing necessary tasks
 - d. Promptness and dependability in meeting appointments
6. Written work (letters, reports)
 - a. Neatness
 - b. Completeness
 - c. Originality
 - d. Accuracy
 - e. Promptness

7. Psychometric skills
 - a. Test administration
 - (1) Accuracy
 - (2) Breadth of skills
 - (3) Use of rapport-getting devices
 - (4) Adaptability of administration to individual situations
 - b. Accuracy of test scoring
 - c. Test interpretation
8. Therapeutic and interviewing skills
 - a. Use of rapport-getting devices
 - b. Ability to establish empathy with the client
 - c. Flexibility in adapting techniques to the situation
 - d. Competence in application of therapeutic principles
 - e. Care in keeping records
 - f. Ability to keep professional confidences
 - g. Ability to seek and use staff supervision
9. Apparent professional potentiality
 - a. Industriousness
 - b. Breadth of study and experience
 - c. Frequency of staff participation
 - d. Awareness of professional ethics
 - e. Awareness of research needs
 - f. Awareness of research possibilities
 - g. Accuracy of research work

students in practicum courses. There are too many persons who are capable of memorizing any facts presented in a course, but who cannot apply many of them to practical problems. And some of these verbal students may be poor clinicians. They may, for example, show a deplorable inadequacy in establishing good working relationships with their clients.

We wish to propose the application of the principle of the rating scale to the problem of grading practicum students. Although not necessarily less subjective than customary methods, it would certainly seem to be more systematic. A carefully constructed rating scale is a step in the direction of bringing into consideration factors which might otherwise be overlooked. Rather than making one or two judgments about an individual, a given judge or instructor would make a large group of observations, not necessarily mutually independent, but at least broader in coverage. This tends to correct stereotypes he has formed, and it can also serve as a step in the evaluation of the different components of education which are found in the practicum courses. If it is feasible in the specific situation, a further step of value is for more than one instructor to rate the student, and a composite rating to be compiled.

As a tentative measure in the suggested direction, we present here a rating scale which indicates some of the considerations that are important for more adequate evaluations of students in this type of course. Far from being final in any sense, it should be looked upon as a beginning. We cannot report its validity or reliability, but our experience has suggested that it is more valid than are less thorough grading methods.

Such a rating scale has at least three major values. First, it makes grading more accurate. Second, it

can become a part of the student's record, and be used for reference by the staff, when writing recommendations. And third, copies of the student's rating, if supplied to him in conjunction with an interpretive interview and a discussion of the methods feasible in the improvement of his weaker points, will usually prove to be a valuable educational device.

The scale seems most useful if it is explained to the student at the beginning of the semester. Also, it is helpful if he is given ratings around the middle of the semester rather than just at the end. He is then enabled to work on the improvement of his scores before the time of the final rating.

To the suggested scale might be added a second sheet on which pertinent comments could be given relating to reasons for the rating of specific items or to incidents which might illustrate problems that need correction. These comments could easily be keyed to the number and letter of the item to which they apply on the scale.

The rating scale can be made more graphic if desired. The five points on a rating continuum might be described more specifically for each trait, and a score could then be obtained for each student. Such a scale would, however, be considerably longer and more cumbersome. It has been our experience that the rating of thirty clinicians on the form in present use requires three or four hours of the instructor's time.

Obviously this rating scale is still not the entire solution to the problems mentioned, for the department or the individual instructor has yet to decide the points of demarcation to be used in determining the grades. However, such a decision would probably be considerably facilitated by the use of the scale.

PSYCHOLOGISTS IN INDUSTRY

WALTER V. BINGHAM

Washington, D. C.

MCQUITT^Y, writing in the January AMERICAN PSYCHOLOGIST, raised a hard question. He asked how our profession can insure a level of success in applying psychological science in industry, comparable with our achievements of the past several years in the military field. He points out that psychology, unlike physics and chemistry, cannot be successfully applied without a fundamental understanding of the non-psychological aspects of the area of application, military, educational, commercial or industrial. Practitioners of psychology in industry must know the aims and ways of industry and the conditions within which their profession must operate. How then are they to be made ready to practice in the industrial setting? That is the question.

We are in McQuitty's debt for having formulated this problem and for having suggested two solutions. One is, to launch on careers in industry and in commerce young people who have equipped themselves in engineering, or industrial management, or business administration, with psychology as a minor. As they rise to posts of responsibility they will recognize the psychological problems and see that they are dealt with expertly.

A second proposal would provide opportunity for advanced students of psychology to take courses in the field of industrial organization and management if they contemplate practicing their profession in an industrial setting.

There are other solutions. In hunting for a bridge on which to cross the chasm between science and practice—more specifically between academic psychology and industrial management—it is pertinent to recall that some of our leading industrial psychologists have learned the minimum essentials about work and supervision while earning as factory laborers the wherewithal to begin or to continue a college education. Might we not do well to seek out and select as advanced students and fellows in psychology those promising young men who, like Carroll Shartle, carry on their forearms the scars from prolonged labor in lifting hundred-pound sacks of cement, or who can produce other evidence that

they already know at first hand what it is to be an industrial worker?

Another way to span the gulf separating psychological science from the art of industrial production is, to persuade brilliant students, thoroughly trained in psychology but innocent of familiarity with factory life and work, to get factory jobs and spend a year or two, first as productive workers and then as supervisors, before letting anyone in the plant suspect that they have studied psychology and earned the Ph.D. The returns on such an investment in terms of subsequent rapid rise toward positions of great responsibility may turn out to be richer and more certain than if an advanced curriculum of psychological science in the university is mingled with courses in engineering or business management sufficiently concrete to give the students more than a hazy bookish awareness of the industrial field.

When applying for employment as a laborer, an assembler or a stock clerk in the plant of his choice, the psychologist may not succeed on the occasion of his first visit to a hiring hall. But the hours he spends on the benches with fellow applicants can be made to yield insights scarcely less enriching than the periods he has invested in listening to lectures on individual differences, basic drives, or physique and character. This holds too for subsequent hours with employment interviewers, foremen, supervisors, and fellow laborers on the job, at lunch, in the wash-room at the day's end, and on the trolley rolling toward home. Books, lectures, laboratories and seminars supply invaluable short-cuts to knowledge and understanding of human nature. They are not always adequate surrogates for first-hand experience.

McQuitty is not alone in his concern that our profession shall acquit itself well in industry. But will novel arrangements of courses in university curricula go far toward insuring fulfillment of our hopes?

The military psychologists who in the early 1940s learned how to get important things done promptly in the Army or the Navy did not acquire the requisite knowledge of military conditions, attitudes and procedures by studying books or taking college courses in Military Science and Tactics. Instead,

they shouldered their share of the military duties that had to be performed by officers in the training centers and depots to which they were assigned. At the mess they talked shop; military shop. They soon came to appreciate what their fellow officers were up against, and how they were driving toward their objectives of organization, training, discipline, health and morale. This is how our novices learned military management. Some essentials of factory management can best be learned in this way—by living and working in the very situation in which one must operate.

Have we any right to look for accomplishments in industry fully comparable with those in the Army unless an equal number of the ablest of our profession should choose once more to leave the campus, this time to devote every available ounce of their energy and wisdom not to the winning of a war but to achievement of the goals of industrial production?

Not that I would suggest that all the outstanding officers who, having shed their uniforms, are training students should right-about-face and go in for industrial careers. Far from it! The universities would lose not only McQuitty but also Shaffer, Travis, Bellows, Flanagan, Guilford, Darley, Robert Thorndike, Melton, Rock, Harrell, Bell, Dallenbach, James Miller, Faulkner, Geldard, Hunt, Coombs and many, many others. They are teaching psychologists imperatively needed by industry, science, education, and national defense. I want only to suggest how unrealistic it is to expect the war achievements of military psychologists to be equaled by achievements of their colleagues in industry until industry has in its employ psychologists as numerous, as able and as mature as were those who, during the war, threw their scholarly ambitions to the winds and concentrated on learning in a hurry how to be most useful and productive in a wholly unacademic setting.

McQuitty recalls that after World War I, the achievements of psychologists in industry did not measure up to expectations raised by their accomplishments during that war. Perhaps those expectations were inflated. There are other reasons. One, not always remembered, is that the decade of the '20s witnessed a drastic change in the area of primary concern to managers and personnel executives. Their anxieties shifted from familiar problems of personnel selection, classification and training to the more vexing and vital problems of labor relations; how to deal with labor leaders, agitators, organizers,

unions; how to negotiate a fair contract; and fundamentally, how to minimize the many just grievances arising from unimaginative or dilatory supervision as well as from unsatisfactory rates of pay. Management knew that these irritations were breeding unrest, and were much more potent in producing costly labor turnover than were traditional methods of personnel selection.

With reference to these problems of human relations, of supervision and of organization, only a few psychologists offered wise and pertinent counsel not already available within the ranks of progressive management. Then too, in this area psychologists enjoyed no monopoly of expertness. Broad-minded psychiatrists, psychopathologists and socially minded economists were equally fruitful sources of ingenious and workable solutions.

Meanwhile too many professors continued to keep personnel selection in the spotlight as though that were the keystone instead of one of the relatively less conspicuous foundation blocks in the industrial structure. I doubt that this mistake will be repeated.

Even so, industrial psychology might not have experienced a slow-up in the early '20s had it not been for a second cause, the post-war business recession. By 1921-22 a secure berth on a campus looked much more comfortable than a less secure industrial post at a higher salary. Also, during a time of layoffs, managers and personnel men are selecting workers to be dropped, not those to be hired. In that phase of the business cycle, only those psychologists are retained who have proved their worth in areas other than personnel selection.

Psychologists who survived in industry after 1921 learned that lesson, thoroughly. So did quite a number who began their professional careers during the tremendous upswing of the Hoover boom. They made themselves proficient in activities additional to those of screening applicants for jobs; for instance, training supervisors, reducing accidents, facilitating the operatives' drive toward easier and more rapid output. Such services were increasingly appreciated by workers and executives. And so it was not surprising that during the great depression of the '30s when manufacturing budgets had to be cut to the bone, the proportion of psychologists retained in their industrial posts tended to be larger than the proportion of chemists or of engineers.

Is it reasonable to think that much can be done in a classroom to speed acquisition of what it takes

to apply one's science usefully in the military situation, or the industrial? Even if graduate students were to take several solid courses in industrial management and labor relations, would they really find themselves much more at home within the population of a great factory than if their time had been given to courses entitled "Advanced Methods of Factorial Analysis," or "Origins and Structure of Personality, a Biosocial Approach"? Not, I think, unless they had already been privileged to put in at least a semester or a couple of summers inside an industrial plant.

Those of our profession who teach psychology may increasingly find it profitable to spend a little time in industries, hunting for the best spots toward which to point students seeking factory experience. Those few professors who, during the '30s, did this systematically, ordinarily brought back to their seminars and laboratories a realism not always obtainable from books. In this way their departments benefitted doubly from their investment of days off campus.

There are then, in summary, several approaches to McQuitty's problem. They are not mutually exclusive. Each may be pursued on occasion.

Arrangements may be made to include more than an introductory semester of psychology in curricula available to students of engineering, business, or industrial management and organization.

Courses full of subject matter related to factory organization and management should be open to those graduate students of psychology whose appetites are whetted for them and who can work them into their programs without jeopardy to the breadth and thoroughness of their more fundamental scientific studies.

Able students whose youthful experiences have

equipped them with a first-hand knowledge of industry should be sought out and encouraged to capitalize these assets and to undertake careers of usefulness and accomplishment in this important field of professional practice.

The graduate student who lacks this background may be urged to secure summer employment of a sort to provide at least a bowing acquaintance with the personnel, the processes and the social atmosphere of industry.

There remains the possibility of prefacing the postdoctoral internship with a baptism of productive factory employment, if these earlier approaches have all been by-passed or have not fully supplied the desired intimate acquaintance with the nature of industrial work and relationships as known and felt by a worker, rather than by an analytical observer with a motion-study camera or a stop-watch in hand.

And finally, there are approaches not unlike those to the military situation taken by some of the psychologists who served with great distinction in the armed forces. These men, eminent in their science and determined to do what they could to help in bringing a terrible war to a victorious end, did not hesitate to take the plunge into a wholly unfamiliar milieu. They accepted any available assignments, professional or other. Within a few short months they had learned military objectives, processes and procedures, on the job, and were contributing to the improvement of these procedures. Their younger colleagues can, if they choose, do as much for the nation's peacetime economy.¹

¹Attention is invited to an informative paper on "Psychologists in Industry" by R. R. Canter, Jr., in the current summer issue of *Personnel Psychology*, 1948, 1, 145-164.

PROCEEDINGS OF THE FORTIETH ANNUAL MEETING OF THE SOUTHERN SOCIETY FOR PHILOSOPHY AND PSYCHOLOGY

JOSEPH WEITZ, *Secretary*

Newcomb College, Tulane University

THE Southern Society for Philosophy and Psychology held its fortieth annual meeting at Atlanta, Georgia, March 25-27, 1948. The host institutions were Emory University and Agnes Scott College. All of the meetings were held in the Atlanta Biltmore Hotel. The local arrangements were under the direction of Dr. James A. Pait. The program committee consisted of Dr. Harold N. Lee, Dr. Dorothy W. Seago, and Dr. Joseph Weitz, Chairman.

The Council of the Society, presided over by Dr. B. von Haller Gilmer, met the evening of March 25. Council members present were: George Boas, Peter A. Carmichael, Meredith P. Crawford, Frank A. Geldard, Harold N. Lee, Katharine T. Omwake, Herbert C. Sanborn, S. Rains Wallace, William S. Weedon, and Joseph Weitz.

Four sessions in Psychology and two sessions in Philosophy were held on Friday. On Saturday morning, there was a joint session of Philosophy and Psychology. Chairmen of the Psychology sessions were Meredith P. Crawford, John Wolfe, James Elder, and Elizabeth Duffy. Chairmen of the Philosophy sessions were Peter A. Carmichael, and George Boas. Chairman of the joint session was B. von Haller Gilmer.

The annual banquet of the Society was held Friday evening at seven o'clock in the Atlanta Biltmore Hotel. Dr. B. von Haller Gilmer delivered the presidential address entitled "Evaluation of the Criteria of Higher Education."

The annual business meeting convened at eleven o'clock Saturday morning. Dr. B. von Haller Gilmer presided.

MINUTES OF THE ANNUAL BUSINESS MEETING

President Gilmer called the meeting to order. The minutes of the Thirty-ninth Annual Business

Meeting were approved as published in the *AMERICAN PSYCHOLOGIST*, 1947, **2**, 397-403.

The report of the Secretary was read and approved. The report contained an account of the activities of the Secretary's office since the last meeting of the Society.

The report of the Treasurer was read and approved. The balance in the treasury as of March 16, 1948 was reported as \$1,178.48.

Dr. Balz reported for the Standing Committee on Philosophy and also reported on the activities of The Southern Humanities Conference to which he is the representative for the Southern Society for Philosophy and Psychology.

On the recommendation of the council twelve new associate members and forty-two new members were elected to the Society. The associate members are: J. C. Box, M. D. Caffey, Jr., L. R. Cummins, J. W. Edgerton, G. T. Kyle, M. C. McCulloch, F. R. McDonald, M. R. Marx, E. Nussbaum, H. L. Stuckey, R. T. Osborne, E. Swain.

The full members are: E. R. Bishop, M. H. Brownell, J. N. Buck, J. W. Clark, W. Coleman, O. H. Cross, I. M. Dungan, S. C. Ericksen, R. E. Evans, I. A. Fosberg, E. Freeman, J. S. Fulton, C. E. Gauss, C. S. Gersoni, A. F. Glixman, J. S. Gray, W. J. Griffiths, Jr., E. P. Horne, N. P. Jacobson, W. T. James, T. T. Lafferty, F. H. Leach, E. M. McGinnies, B. McKeever, W. Moore, J. T. Morton, Jr., E. D. Myers, W. S. Phillips, C. P. Poole, E. T. Prothro, H. U. Puryear, M. S. Quayle, E. L. Queener, J. A. Rikard, N. C. Sandwich, L. E. Thune, G. Van Buskirk, W. B. Webb, H. R. White, B. Winsten, A. B. Zimmerman.

It was recommended by the Council that by-law 1 of the constitution be amended so that the amended by-law would read, "The annual dues of members shall be \$2.00; the annual dues of associate members shall be \$1.50." This recommendation was passed by the Society.

It was announced that the Council voted to authorize the Treasurer to spend \$1.00 per plate for the banquet in order to reduce the cost of the banquet for the members.

The Council recommended that the members empower the Council to act on banquet arrangements and that this action should take place well in advance of the meeting. This recommendation was voted on by the Society and passed.

A discussion was had concerning possible variations in the program for meetings in the future. Such possibilities as round table discussions, panels, fewer papers, and the avoidance of simultaneous sessions were discussed. It was moved that this matter be referred to the Council for action for next year. The motion was passed.

The Council recommended that the Society accept the tentative invitation of Tulane University to meet at New Orleans in 1949. The recommendation was voted on by the Society and passed with the provision that in the event of difficulty in obtaining hotel accommodations the Council be empowered to act concerning the choice of the next meeting place.

Upon recommendation of the Council the following officers and Council members were unanimously elected by the Society: President, Harold N. Lee; Secretary, John Wolfe; Treasurer, James Pait; council members, James Elder and Louis Kattsoff.

Upon the motion of the Secretary, the Society went on record as extending its thanks to Dr. James A. Pait and his Committee on Local Arrangements.

The meeting was then adjourned.

PROGRAM

Friday Morning Session, March 26, 1948

Philosophy

PETER A. CARMICHAEL, *Chairman*

The ontological proof of the existence of God—a reconsideration. *Anna Forbes Liddell, Florida State University.*

The ontological proof of the existence of God has met with criticism, amounting even to derision, at least from the time of Saint Anselm. In the opinion of the writer, such criticism is not well taken, because the criteria of judgment which it uses are not adaptable to the kind of experience to which they are applied.

Using selections from the writings of Saint Augustine, Saint Anselm, and Nicholas of Cusa as

the basis of study, the writer will undertake to show that the ontological proof is logically sound and not merely self-consistent.

Spinoza's treatment of the attributes. *Morley Mays, University of Virginia.*

It is the purpose of this paper to offer an hypothesis looking toward a solution of the problem of the attributes in Spinoza. On the assumption that there is abundant evidence in support of both the subjective and objective interpretations which have been advanced in the past, the problem is to determine in what sense the attributes can be at once both subjective and objective.

Certain significant diversities of the treatment of the attributes as between Parts I and II of the *Ethics* suggest that these two parts represent two complementary and indispensable metaphysical points of view. One is an ontological perspective, in which substance and modes constitute the full inventory of being. The other is an epistemological perspective, in which the attributes assume parity with substance and modes.

It thus appears that the attributes are apposite primarily to the human intellect. But they correspond, nevertheless, to something in the ontological perspective. It is being urged, therefore, that the infinite modes in one perspective are the correlates of the attributes in the other, that accordingly in a sense the attributes are both subjective and objective.

The status of size in Berkeley's philosophy. *Gerard Hinrichs, Tulane University.*

Berkeley's treatment of size is taken as decisive of the merits of his conviction that we perceive a common world. In the course of argumentation designed to prove that all ideas, size included, are proper sensibles and dependent on being perceived, he vacillated between size as perduring, determinate and common-to-all literally, and size as intermittently existing, variable from person to person, and private, although assertedly common-to-all in the sense of forming a single system for finite minds. But the assertion is baseless, for if not only the ideas of size but the rules according to which they appear vary from mind to mind, as he asserts, action cannot be harmonious nor meanings unambiguous to different persons. The human understanding, for Berkeley, does not transcend the order of its own ideas except as involving other finite minds and

God. But grounding the ideas of all finite minds in a single God is not sufficient to insure either my knowing your ideas or your system of ideas, or the harmonious relationship of your system of ideas with mine.

Analogical signification in metaphysics. *Lewis M. Hammond, University of Virginia.*

In the search for the ultimate principles and causes of things, metaphysics must go beyond the appearances and the realm of sense objects, and seek to render intelligible such entities as the prime mover, the idea of the good, or prime matter. But there then arises the problem of how to employ our terms and concepts so as to signify these entities adequately. On the one hand, if our terms and concepts are employed univocally, that is, have the same meaning as they do when applied to other sense objects, then we are no longer signifying the causes and principles, but are referring to phenomena which are to be explained. On the other hand, if the difference in the mode of being of these causes and principles leads us to an equivocal use of terms, then their meaning has only an accidental relation to the nature of the entity supposed to be signified; and any possibility of a knowledge of these causes is lost.

There remains a third possibility, namely, analogical signification or use of terms and concepts. But care must be taken here to distinguish the use of analogy in metaphysics, where the entity to be signified transcends the order of direct observation, from the more usual use of analogy in dealing with objects which are more directly accessible to our experience. The paper is concerned with distinguishing the several main types of analogical signification, with a view to clarifying the kind that is proper for signifying "metaphysical objects".

The empirical criterion of meaning. *Martin Lean, University of North Carolina.*

Sentences, like words, are merely conventional signs. The meaning of a sentence is not intrinsic, but assigned. The function or intention of sentences may be evocative and expressive, ("pragmatic"); or it may be to set the rules of linguistic usage itself, ("syntactic"); or it may be factual—to describe and assert states of affairs, ("semantic"). The last is the function which the metaphysician and the theologian, no less than the scientist and the practical man, esteems and supposes himself to be employing. But words are like the printer's type. They may be strung together in various

combinations, not all of which are meaningful. What is required is a principle of discrimination broad enough to encompass those sentences which are obviously informative, yet critical enough to exclude those which are admittedly nonsensical. The rules of grammar and logic are not adequate, for sentences may be constructed which violate neither set of rules, and yet are obviously lacking in cognitive content. The "principle of verifiability" is adequate. However, principle itself does not rule out the alleged non-empirical sources of knowledge: intuition, revelation, dialectic. Critical examination shows these alleged alternatives to be unsatisfactory bases for objective discrimination. The empirical criterion alone—aside from its naturalistic, common-sense justification—meets the epistemological demand for an adequate and discriminating criterion by which to judge the cognitive significance of sentences.

An attempt to verify the practical value of elementary logic. *John H. Melzer, University of Kentucky.*

This paper is a report on the initial results obtained from an attempt to verify the practical value of elementary logic by giving students at the beginning and at the end of the course the O.S.U. psychological tests 21 and 22 (intelligence tests) and the Iowa Silent Reading tests AM and BM. To date it has been found that when the course was given to some of the lowest fifth in intelligence and achievement of the Freshman class at the University of Missouri there was an average increase for the entire group of 62% on test 3 of the O.S.U. (Tests 1 and 2 were not given for lack of time) and an increase of over 100% on this test for over half of this group. On the other hand, when the tests were given to a group of Seniors, Juniors, and Sophomores of all percentile groups (predominantly the higher) at the University of Kentucky, there was an average increase of 30% on test 3 of the O.S.U. and an average increase of 18% on the non-mnemonic comprehension (Directed Reading) test of the Iowa Silent Reading Tests.

The paper will also discuss the validity of these results, techniques of teaching required, and possible general inferences.

A redefinition of primary and secondary quality. *Lewis W. Beck, University of Delaware.*

Locke's distinction between primary and secondary quality seemed to depend on his theory of in-

intrinsic properties and external relations. His distinction is defensible in the light of the methodology of physics but does not imply his theory of relations or Cartesian dualism.

It is proposed here to recognize a continuity between the two types of qualities by considering them all to be relational. Primary qualities are those contingent upon "homogeneous contexts," while secondary qualities are those contingent upon "heterogeneous contexts." Homogeneity and heterogeneity are extremes with many intermediate between them.

A homogeneous context is one described in a logical system of high inferential integrity, such as that of physics; physics therefore deals with primary qualities. Qualities dependent upon heterogeneous relationships (e.g., physical objects and sensitive organisms) will be secondary. But percepts or *sensa* may themselves constitute homogeneous contexts or domains of relations in systems of high integrity, and there may thus be primary qualities of *sensa* independent of the question of resemblance between them and the physical objects.

Some advantages of this conception are: it frees the distinction from dependence on special psychological assumption; it does not involve "bifurcation of nature" or the "fallacy of misplaced concreteness"; it is consistent with the methodological demands of physics; and it clarifies the inferential system of psychology by showing that primary qualities are not equivalent to physical properties.

Psychology

Section I

MEREDITH P. CRAWFORD, *Chairman*

A study of changes in recall of completed and incomplete activities in neutral and stress situations. *Alfred F. Glixman, University of Mississippi.*

An experiment was conducted to study changes in recall and resumption of tasks as a function of changes in threat to self-esteem (stress) in a real-life situation. Data from ninety students from the Introductory Course in Psychology at the University of California were used in this analysis of the recall results.

Analysis of covariance was applied to the data which were collected by the use of a group procedure. The effect of number of completions was partialled out. There were three classifications: (1) three situations producing three degrees of stress; (2) four

sequences representing different arrangements of resumption and recall; (5) two forms of twenty paper and pencil tasks. There were five individuals in each three-way cell.

Increase in stress yielded a significant decrement in the number of incomplete tasks recalled. No change occurred in the number of completed activities recalled. An evaluation of previous studies of experimentally induced "repression" was made and an hypothesis which would be consistent with the available data was suggested.

The effect of sleep prior to learning. *Philip Worchel, University of Texas, and Melvin R. Marks, Tulane University.*

On the basis of their investigations (1924) of the rate of forgetting during sleep and waking, Jenkins and Dallenbach proposed the hypothesis that "forgetting is not so much a matter of the decay of old impressions and associations as it is a matter of the interference, inhibition, or obliteration of the old by the new." The curves of retention showed no greater loss after eight hours than after two hours of sleep, and a drop of 45% in the first two hours of sleep. This drop cast some doubt on the tenability of the hypothesis since there is no apparent reason why the interference should be greater in the first two hours.

In the present study, conditions prior to learning were investigated as possible explanations of the initial drop in the curves of retention. Specifically, we wished to compare (a) retention in the situation where there is sleep both before and after learning, with retention in the situation where there is 'normal activity' before and sleep after the learning; (b) learning ability when learning is preceded by 'normal activity' with learning ability when learning is preceded by sleep.

Two subjects learned lists of 12 nonsense syllables to criterion of one perfect repetition under the following paradigm:

EXP.: 1½ hours sleep—learn—approximately 6½ hours sleep—relearn.

CONT.: Normal waking—learn—approximately 6½ hours sleep—relearn.

Under the conditions of this study the following conclusions were reached:

1. A period of 1½ hours sleep preceding a learning session significantly impairs learning ability (increased number of repetitions and correct anticipations) as compared with the learning of equivalent.

2. Retention after a period of approximately 6½ hours sleep, as measured by re-learning is approximately constant, whether sleep or normal waking activity precedes the original learning.

Personal values as determinants of word association.

Elliott McGinnies, University of Alabama, Jerome S. Bruner, Harvard University, and Leo Postman, Indiana University.

A previous study by Postman, Bruner, and McGinnies (in press) has demonstrated that personal values act as selective factors in perception. Exposure time required for recognition of words symbolizing the six values measured by the Allport-Vernon *Study of Values* was determined tachistoscopically for 25 subjects. In general, the higher a subject's value score the lower his threshold of recognition for a word symbolizing that value. Value orientation was also reflected in the "hypotheses" made by the subjects before recognition.

A companion experiment was concerned with the direction and latency of association by the same 25 subjects to each of the 36 value-words. Association time was measured with a voice-key circuit. The results of this experiment have been analyzed in terms of the relationships between (1) value and latency, (2) value and type of association, and (3) latency and type of association.

The findings indicate that association time is shortest for words symbolizing high value areas and longest for words symbolizing low values. In addition, high value-words give rise to more associations congruent with the value area, whereas low value-words give rise to more associations congruent with the value area, whereas low value-words bring forth more associations having a connotation opposite to that of the value symbolized. Finally, responses which reflect a value area directly are represented by shorter latencies than, for example, are miscellaneous, egocentric, or repeat responses.

It is tentatively concluded that ease of recognition and speed of association may be functionally equivalent in serving some more basic central process concerned with maintaining and defending the individual's needs and attitudes.

A critique of the genetic theory of consonance.
Eugene G. Bugg and Albert S. Thompson, Vanderbilt University.

This paper reports a joint-investigation of the validity of the genetic theory of consonance which

holds that the latter phenomenon is explicable in terms of habituation. More specifically, the genetic theory is subjected to the three commonly accepted tests of hypothesis, namely, the convergence test, the reductio ad absurdum test, and the prediction test.

In applying the prediction test to the genetic theory, data were obtained from two experimental groups in order to determine: (1) whether the consonance discriminations of those who appreciate modernistic music (which abounds in so-called dissonances) differ significantly from the discriminations of those who dislike modernistic music; and (2) whether increased tolerance for modernistic music is accompanied by such changes in consonance discrimination as the genetic theory would lead one to expect.

Preliminary analyses offer little or no evidence in support of the genetic theory of consonance.

The rotated maze and retroactive inhibition.
Maurice Curtis Langhorne, Emory University.

Sixty male college students served as subjects in an experimental situation designed to test the influence of learning a rotated position of the maze on the relearning of a position learned previously. The subjects were assigned randomly to each of four groups numbering 15 subjects each. Groups I, II, III were considered experimental groups while IV was a control. All experimental groups learned the same original position; then on the next day learned the same maze rotated to a new position which for Group I was a 90 degree counterclockwise turn, for II an 180 degree move, and for III a 270 degree turn; finally on the third day the groups relearned the original position. Measures of significance, using Fisher's *t* ratio, indicated that in measures of trials, time, and errors needed to reach a criterion of 2 consecutive errorless trials on the initial position, all four groups were from the same population. Comparisons of the trials, time, and errors required by the experimental groups for the relearning of the original position with the trials, time, and errors needed by the control group to reach the same learning criterion failed to show any significant differences. Retention was measured also in terms of the percentage of gains made by each subject between learning the original position and relearning it after interpolation of a different maze position or after a period of no maze learning. There was again no significant differences as shown by the *t* scores.

The relation of body morphology to galvanic skin conductance and response. *Oliver L. Lacey, Paul S. Siegel, and Helen L. Stuckey, University of Alabama.*

That body morphology is related to temperament has been often hypothesized. In view of the established fact that level of galvanic skin conductance and magnitude of galvanic skin response (GSR) are symptomatic of emotional excitement, this hypothesis implies the existence of a significant correlation between some morphological index (M.I.) and either basal level of conductance or GSR or both. This possibility was checked employing 92 male subjects.

The average correlation between M.I. $\left(\frac{\text{Height}}{\text{Weight}}\right)$ and basal level was .01; the average correlation between M.I. and GSR was -.02. The correlation coefficient significant at the 5% level is .22. Thus no evidence is found to support a relation between body form and temperament with respect to emotional characteristics as reflected in basal skin resistance and change.

A study of faking on the Kuder Preference Record. *Orrin H. Cross, University of Alabama.*

The study was designed to determine with what facility an individual desiring to fake the Kuder Preference Record could do so.

Preliminary studies done in the Tuscaloosa Public High School indicated that this could be relatively easily accomplished. However, the pilot study was done on only one of the nine scales.

Further definitive studies on each of the scales will be reported.

Section II

JOHN B. WOLFE, *Chairman*

The effect of the social prestige value of items on the measurement of vocational interests. *Elizabeth Fehrer, Michigan State College and Hans Strupp, George Washington University.*

One of the current methods of measuring vocational interests requires a subject to choose from small groups of activities or occupations the ones that he prefers. The purpose of this study is to determine whether such choices are influenced by the relative social prestige values of the items to be compared.

A test to measure four broad interest categories was constructed, the items consisting of pairs of occupational titles. These occupational titles had first been scaled for prestige value by the Thurstone

technique. Items were constructed in such a way that certain ones consisted of pairs of titles equal in prestige value while in others the prestige values differed by measurable amounts.

Analyses of the test scores of 180 subjects indicate that, within the prestige range tested, the social prestige of an occupational title has no appreciable influence on choice. The scores for an interest category are approximately the same when based on items in which the prestige values of the two titles are equal as when the prestige values favor or oppose the category.

Experience and selection. *James B. Klee, Carnegie Institute of Technology.*

A need is felt to expand the basic concepts of psychology so as to include problems relating to selection. In order to do so, however, the nature of the relations between organism and environment must be reexamined lest the result be something in the direction of will as independent of the organism and environment and thus beyond determinism. It is suggested that we return to immediate experience as the primary determinant of behavior instead of excluding this step and jumping directly to the relation of organism and environment. Formulations in terms of organism and environment are, from this point of view, theories of experience rather than direct causes of behavior.

Once the primacy of experience is restored it is possible to consider selection as an aspect or dimension of experience. Selection takes its force from the motivational values of experience as these compare in experience. It is suggested that choice is immediate and takes place among the parts of experience, that is, selection is relative within experience as far as the discriminating organism is concerned. Experience is itself selective and the resulting behavior is the consequence of the selective loadings of experience.

The effectiveness of a training program in industrial psychology for supervisory personnel. *Raymond A. Katzell, University of Tennessee.*

Sixty experienced supervisors employed by a railroad were enrolled in a training program designed to produce better understanding of human relations in industry. The men were divided into four groups, each of which met four hours a week for eight weeks. The meetings consisted of a series of conferences, conducted by the determinate discussion method,

in which were considered various psychological problems encountered in management of personnel. Emphasis was placed on clarification of the psychological principles involved and their applications in dealing with the problems.

The main topics discussed included: functions of supervision; personal qualifications of supervisors; psychological approach to human nature; factors producing individual differences in job performance; working conditions and methods; learning and training; understanding personalities; motives and incentives; morale; leadership; accidents and safety; and self-improvement. The general approach was non-technical.

Alternate forms of the File-Remmers "How Supervise?" questionnaire were administered toward the beginning and the end of the training program. This questionnaire calls for expressions of attitudes toward supervisory practices and principles. The mean score at the conclusion of training was significantly higher (better) than at the beginning. Relationships were determined between improvement on the questionnaire and initial status, adaptability test scores, and experience.

Validities of a selection test for different criteria and sample components. *S. Rains Wallace, Jr., Life Insurance Agency Management Association.*

Data are presented on the validity of a selection test for 1247 life insurance agents contracted by 23 Canadian companies in 1945. An analysis is made in terms of such criteria as length of service and absolute production measured by insurance sales. A further criterion which attempts to combine these two aspects of performance and roughly to correct for differences among the companies is also explored. The manner in which "validity" varies for these different criteria and also for different age groups in the sample is shown.

Aircraft accidents and the aviation psychologist. *Richard H. Henneman, University of Virginia, and Major Philip H. Mitchell, USAF Strategic Air Command.*

The aviation psychologist's contribution to aircraft accident prevention can perhaps be achieved most effectively by a careful examination of the various approaches to flying safety, with consequent recommendations for the application of sound psychological principles, or for basic psychological research.

Among the several procedures or policies which have been tried out or proposed for reducing aircraft accidents are the following:

1. Improved procedures for the selection of pilots.
2. Improved training methods (including both pre-accident preventive training, and post-accident remedial training).
3. Application of the clinical approach (involving both a case-history analysis of the accident and pilot, and post-accident psychiatric treatment of the pilot).
4. Increased emphasis on flying safety education.
5. More rigid enforcement of flying safety precautions and regulations.
6. Redesign of aircraft equipment (to reduce the opportunities for mistakes by human operators).

A survey of the literature and experience gained from war-time investigation of military aircraft accidents indicate that psychologists have the greatest contribution to make at the present time by carrying out research on *redesign of equipment* and *improvement of training procedures* (including the measurement of flying proficiency). The value of the *clinical approach* needs to be determined by experimental studies utilizing the case-history method and psychiatric treatment.

Problems in identifying the elements of pilot aptitude. *Frederick B. Davis, George Peabody College for Teachers.*

A number of methods have been employed for identifying the elements of pilot aptitude. The resulting identifications of mental and psychomotor traits are all based on subjective judgment. Of the methods employed, the one that yields results most dependent on subjective judgment and interpretation is probably factorial analysis. Yet, curiously enough, this method is sometimes regarded as providing an objective means of identifying the mental traits underlying pilot aptitude, or any other complex of skills.

The problems of designing and interpreting factorial studies of pilot aptitude include: (1) differential selection in the samples employed for analysis, (2) the selection of tests to be analyzed, (3) identification of the psychological meaning of factors obtained by analysis, (4) the weighting of variables for purposes of analysis, (5) the method of expressing the results of the analysis for interpreta-

tion, and (6) identification of the skills actually measured by the tests subjected to analysis.

An illuminant-stable color vision test. *Ellis Freeman, The University of Texas.*

The best practical test of color vision is the printed polychromatic, typified by the Ishihara. Its weakness is that, being calibrated to an assumed standard illuminant, 6500°K, it becomes undependable with deviations from this standard. In practice the standard illuminant is never provided because it requires special artificial means, which are almost never available to testers or appreciated as a necessity. Hence, non-standard illumination is the rule rather than the exception, and is "the largest contributing factor" to the passing of 50% of color defectives in from one to five physical examinations in the Navy, for example, despite the admonition in the *Manual* to exercise "particular care" in respect to illumination. The present report discusses the development of a new polychromatic printed test which retains stability and diagnostic integrity under a range of illumination far wider than that encountered under natural or artificial illumination, from Minus Blue to 14,000°K. Thus testing may be performed in disregard of the composition of the illuminant. And thus a source of error is eliminated which has impaired the validity of the most practical type of color-vision test.

Friday Afternoon Session, March 26, 1948

Philosophy

GEORGE BOAS, *Chairman*

The aesthetic apriori of Vasconceles. *Marjorie S. Harris, Randolph-Macon Woman's College.*

Don Jose Vasconceles regards his conception of the aesthetic apriori as his original contribution to philosophy. In this paper, however, we shall confine our attention chiefly to the significance of this conception for aesthetic theory. But first we must point out what the conception is. Vasconceles posits categories of the understanding applicable to aesthetic phenomena just as there are categories of the understanding applicable to those aspects of the physical world with which the physical sciences deal. These aesthetic categories are rhythm, melody, and harmony.

They are not only forms of the understanding but they are constitutive principles of the beautiful object. Hence the secret of beauty—Vasconcelos

maintains—can be defined in terms of the aesthetic apriori. It is with the development of this point that we are here concerned.

What is the subject of Aristotle's poetics. *Edward Goodwin Ballard, Tulane University.*

Much fruitless discussion of Aristotle's *Poetics* has gone on because writers have not given due weight to the context within which this treatise is written. This treatise is really an application to the drama of principles developed by Aristotle in his *Metaphysics*. Thus in chapters four and six the matter and form of the drama are distinguished; in chapter six and in the remainder of the treatise the four causes of the drama are discussed. Read in this manner the function of the *Poetics* in the corpus of Aristotle's writings becomes clearer, and the application of its terms and principles to the analysis of dramas is facilitated.

Illustration and explanation of this thesis is developed in the mythological context which doubtless would have been familiar to any Greek of Aristotle's time.

The logical ground of deontology. *Peter A. Carmichael, Louisiana State University.*

Duty is predicable only of agents under commitment. The sense of duty, or conscience, consists of revulsion against evasion or denial of a commitment or against temptation to such. But for this temptation or repudiation, conscience would not be. Logically, conscience is repudiation of inconsistency. The consistency that results (or that prevails in the absence of repudiation) is independent of morals. One of the motives to it is a prior or ruling consistency, of understanding and being; of which an ethical expression is integrity. With a change of commitment, a change of duty may ensue, and in the absence of absolute power over commitments there is no absolute duty. But within the terms of a commitment there is an absolute duty, which is the logical ground in question, and is consistency.

"Society" in the ethics of David Hume and Adam Smith. Warren Ashby, *University of North Carolina*.

The concept of society provides a clue toward the understanding of the empirical ethics of Hume and Smith. They present three definitions of society: (1) society is that group of individuals united by a direct "sympathy"; (2) society is that group of

individuals and organizations united by the interdependency of needs and wants; and (3) society is that group of individuals united by a "sympathy" with the public interest. "Sympathy", the chief source of moral distinctions for Hume and Smith, is also the key to the concepts of society (1) and (3) that are important for the moral experience.

Three conclusions can be derived from these definitions: (1) society, in terms of the ethical life, is a polar relation between the self and a social-other; (2) society influences the individual moral judgment because (a) the individual is in the society and (b) the image of the society is within the individual; and (3) the individual does not exist within one but within many ethical societies.

These conclusions point to (1) a partial definition of the signification of moral judgments; (2) the possibilities of the validation of moral judgments; (3) other problems that must be solved by an empiricist ethics; and (4) the necessity for a reinterpretation of the empirical ethics of Hume and Smith.

On the justification of democracy. *Willis Moore, University of Tennessee.*

During the modern era of Western thought men have employed two radically different methods of justifying human institutions. The earlier of these is the familiar appeal to supernatural authority as exemplified in simple quotation of supporting scripture or in the use of the more complex doctrine of natural rights. For various reasons this method of tracing institutions back to supernatural sources has been all but abandoned in favor of reference to their consequences within human experience. Contemporary defense of democracy contends that democracy has certain advantages over its rivals in terms of long run efficiency, while the other describes the superior educative effects of democratic procedures upon the participating individuals.

This paper is concerned with a rarely emphasized aspect of the educative argument. It attempts to define and delineate that intellectual and moral consequence of democracy sometimes called "the democratic attitude" and to show both how democracy produces it and why this particular effect, so produced, constitutes one of the basic arguments for the type of institution which tends to engender it.

The mark of the good myth, definition of a problem. *Margaret Callender McCulloch, University of Virginia.*

Myth is man's attempt to explain his world or

some aspect of it by a construct of observation, memory, reason, imagination, and expression, a statement that the world behaves "as if." Under the aspect of myths we organize our individual and social lives.

Today we are confronted by a world of people mechanically united inescapably, but mythologically divided, for example: Hindu-Moslem, communist-capitalist conflicts, national, racial, class, and religious myths, competing as bases of social organization.

For humanity as a whole, for groups, and for individuals, choice among competing myths or resolution of their conflicts in a new myth has become necessary. If we are not to have arbitrary, non-rational choices and imposition by violence we must find a basis for rational choice and revision and non-violent adjustment among competing myths. No clear principles of choice or revision have as yet general acceptance.

The questions: "What is myth?" and, "What is the mark of the good myth?" have become crucial.

Myth-making is a natural, universal human activity essential to the attainment of knowledge and to its expression, carrying in itself principles for its own validation and revision.

To what extent can we discover these principles?

Psychology

Section I

JAMES ELDER, *Chairman*

The effect of adrenalectomy on the incidence of audiogenic seizures in rats. *William J. Griffiths, Jr., The University of Mississippi.*

Using eighty rats of both wild and domestic varieties, the effect of temperament factors on the incidence of audiogenic seizures was studied. The investigation was centered around the question as to whether inactive, lethargic animals are more susceptible to experimentally induced seizures than active, emotional animals. To produce a condition of lethargy, the adrenals were removed. Measures of temperament, nutritional intake, and activity were collated with incidence of audiogenic fits occurring prior to and following bilateral adrenalectomy. Some of the rats were given a 3% solution of sodium chloride to maintain them following the operation. Others were allowed to succumb to adrenal insufficiency.

It was found that lethargy following adrenalectomy was not related to incidence of sound-induced fits. Bilateral adrenalectomy seemed to have a

therapeutic effect relative to severity of experimentally induced fits.

A study of random bar pressing responses as a function of drive states. *Wilse B. Webb, University of Tennessee.*

It has been noted that animals operating under different drive states reveal considerable differences in their generalized spontaneous activity. To extend this observation to the Skinner-box situation, an experiment was designed to test the hypothesis that rats under stronger drive states will hit the stimulus bar by chance a greater number of times than rats under lower drive states, as a function of approaching the bar area a greater number of times and performing a wider variety of activity.

A modified Skinner-box obtained from the Yale Laboratory was used. Twenty female hooded rats from the University of Iowa breeding colony were divided randomly into two equal groups. All animals were naive to the Skinner-box. The members of one group were placed individually in the box under a 22-hour drive. The members of the other group were placed in the Skinner-box immediately after eating. A record was kept of the number of times the bar was depressed. An "extinction" criterion of the number of responses in a five-minute interval was used. The following day the drive conditions were reversed for the two groups and the procedure was repeated. Combining the results of the two days, the difference between the Hunger and Satiated conditions was significant at between the five and ten per cent levels of confidence. Our data are interpreted as indicating that animals tend to produce in increasing number of random bar responses (depressions of the bar which are not a function of the bar-food habit structure) as drive strength is increased (within limits). It should be noted that this distortion of the extinction data would not simply add a constant under varying drive conditions but would rather add a differentially increasing alien factor as drive strength increases. Certain additional data were obtained in regard to the sex and/or breed differences which indicate the further need for rigid control of conditions in this apparatus.

Effect of unrewarded consummative responses on performance in chickens. *John B. Wolfe, The University of Mississippi.*

The effect of unrewarded occurrence of consummative responses on performance was investigated

by imposing two conditions of reward upon two groups of chickens in a straight runway situation. One condition allowed one piece of reward to be obtained in one peck at the end of each run. The other condition also allowed one piece of reward but several pecks might be made in getting it. Forty-eight chickens, about fifty days old, were used in the study.

The results are presented to enable a comparison of the conditions of reward in terms of speed of running and to show for the chickens which did the extra pecking the correlation between speed of running and number of unrewarded pecks. Unrewarded pecking was associated with inferior performance as revealed by group comparison and by a ρ of $-.35$ between speed of running and number of unrewarded pecks. This finding is discussed in relation to a previous study that separated the effects of amount of reward and amount of consummative activity.

A study of concept formation. *Joseph Weitz, Newcomb College, Tulane University, and Christine Flurry, Barnard College.*

The effect of set on "concept formation" was investigated using a modification of the technique described by Hebb. It was found that although the subjects responded to objects first, then to form, and then to numbers in most situations, when the subject was set to respond in any or all of the three ways the differences in the order of speed of learning disappeared. It would seem then incorrect to generalize from data so far published that concepts of object classes are developed earlier or with less difficulty than other types of concepts. The order found here and in Hebb's work may be a function of the method of investigation used.

Since instances of tridimensional form are as manipulable as instances of objects, and since objects were learned more quickly, it does not seem that manipulability can be the sole criterion for the determination of the order of learning. Set obviously plays an important part.

Since the types of concepts investigated in adults have long been in use, it is doubtful that any study has truly investigated the formation of such concepts in the laboratory, but perhaps these studies have shown something of the process involved in identifying or eliciting concepts already attained.

Solution of discrimination and delayed response problems by nursery school children. *Meredith P. Crawford, Vanderbilt University.*

As a preliminary approach to the development of battery of non-language tests for a comparative study of negro and white children, trial was made of two tests in common use with animals. Two portable pieces of apparatus for studying discrimination learning and delayed response were constructed. The discrimination apparatus allowed the subject to press in one of two glass windows behind which stimulus cards were displayed. Choice of the correct stimulus was followed by the illumination of a small electric light and the sounding of a music box. Incorrect trials were not so rewarded. Children were first trained in a simple black-white discrimination. If this was solved two more simple discriminations were presented, and if these were mastered a fourth problem was begun with varying pairs of stimuli, the correct response depending on a "concept" running through the series. The delayed response problem involved a series of trials, in which the children observed the experimenter bait one of three or four small boxes which differed from each other in color and pattern, and were then allowed to choose one after a 20 second delay. A total of 99 white children ranging in age from 2 years, 0 months to 5 years and 11 months and 28 negro children of comparable ages were tested with discrimination apparatus and 80 of the white children and 25 of the negro were given the delayed response test. Results showed an increase in success on both problems with advancing age. Rank difference correlations between the two tests within various age levels ranged from .60 to .75. In the present paper results will be discussed in terms of the comparative performance of children and animals, with particular emphasis on the significance of a developing language response.

Sensory pre-conditioning and the role of set in human subjects. *Harry W. Karn, Carnegie Institute of Technology.*

Two groups of 15 subjects each were subjected to stimulation by a buzzer and a red light in combination for 25 trials after which the finger withdrawal response was conditioned to the sound stimulus by pairing it with an electric shock. Upon attaining the criterion of conditioning the red light elicited the finger response in 12 of the subjects of one group despite the fact that it had never been presented

with the shock. When a white light was presented individually to the second group of subjects only four of them responded with finger withdrawal.

A third group of 15 subjects received no preliminary light-buzzer experience. After this group was conditioned to the buzzer the red light elicited the withdrawal response in only three subjects.

The results are interpreted in terms of a fairly specific association formed between light and sound during the preliminary pre-conditioning period. Such an association is the result of an explicit or implicit set on the part of the subject to relate the stimuli to each other. The relation of this interpretation to the general phenomenon of incidental learning is discussed.

A study of figural after-effects: The Kohler effect. *Melvin R. Marks, Tulane University.*

If, after fixating a figure for a long period of time, a subsequent figure is fixated in the same portion of the stimulus field, certain phenomena are observed. These phenomena have been termed figural after-effects, or, more particularly, the Kohler effect.

Sixty subjects 'observed' the Kohler effect in the upper, right hand, and lower portions of the stimulus field. Each also served as his own control in a comparable situation where there was no preliminary figure to 'build up a brain field'. The sequence of control and experimental situations was varied for different groups of subjects. Reports of phenomena observed during the preliminary fixation period were recorded.

A majority of the subjects experienced the Kohler effect. The results were not significantly affected by variation of the position of the test figure in the stimulus field. When the experimental situation followed the control situation a significantly greater incidence of the effect was noted as compared with the reverse sequence.

Possible physiologico-theoretical and logical defects of brain field theory are discussed. While the importance of the demonstrated existence of the Kohler effect is stressed, it is evident that further clarification of some fundamental Gestalt concepts is necessary.

Section II

ELIZABETH DUFFY, *Chairman*

The structural nature of set. *R. J. Wherry, University of North Carolina, and D. Rethlingshafer, University of Florida.*

Even so simple a response as that measured in

reaction-time experiments is recognized as being influenced by concomitant acts of the reacting organism yet little agreement is found as to the nature of this structuring of the organism. Experiments upon thirty college students measured the effect of one sensory-motor set upon another, using changes in reaction-time as evidence of disruption.

Among the principles supported by the data were:

I. A set is a structure of elements (external, or or internal stimuli, sense organs, neural connections, and motor organs) temporarily related (sensory preparation as focusing, neural gradients, motor preparation as tonus, etc.) to produce an efficient response upon the appearance of a proper missing element (stimulus to some ready sense organ).

II. This structure persists until disrupted by a new set or sets which conflict with the old set in that they require antagonistic elements, or identical elements arranged into new gradients (relationships).

III. Decreased efficiency of an original set (as measured by speed of response or certainty of response in a fixed period of time) is proportional to the amount of disruption at the moment of testing.

Changes in the galvanic skin response accompanying the Rorschach Test. *Jeanne R. Levy, University of Pennsylvania.*

Record was made of change in palmar skin conductance (galvanic skin response) accompanying each of the Rorschach plates upon presentation, by means of a Guhin card changer, to 50 male college students individually. On the assumption that increased conductance is indicative of "affective tone", a finding of significantly greater increases accompanying the colored and the heavily shaded plates would serve to strengthen the position of Rorschach theorists who maintain that these cards possess "affective value" for the subject. To counteract the adaptation of the GSR and at the same time preserve as nearly as possible the normal Rorschach sequence, the order of presenting the cards was systematically rotated. Significant individual differences in galvanic response to the cards were obtained, implying differences in "affective" reaction to the test as a whole. The sample was found to be normally distributed. Change in conductance among the cards was not found to be significantly different; therefore, there is no statistical evidence that the cards differ among themselves in "affective value." The experimental design introduced consideration of effect on the GSR of card

position. Position in the series was found to have a significant effect on change in conductance for the sample investigated.

Significance of theory in clinical psychology. *R. C. Topper, Veterans Administration, and M. E. Topper, Atlanta, Georgia.*

This is a theoretical paper discussing some of the factors related to the status of clinical psychologists. It is the contention of the authors that clinical psychology should, and has the potentialities to, become a fully developed clinical practice, including therapy for all types of psychopathologies. The authors further contend that the general acceptance of clinical psychologists as therapists will best be accomplished by reworking the fundamental psychological principles, thus avoiding confusion. A non-elementalistic system is outlined based on the inter-behavioral constructions of J. R. Kantor.

Inferences concerning the motivations of a murderer:

A psychological study of "displaced" aggression. *James E. Greene, University of Georgia, Joseph E. Moore, Georgia School of Technology, and Thomas F. Staton, Air University.*

The writers, in collaboration with Dr. Hervey Cleckley, Professor of Neuro-psychiatry, University of Georgia School of Medicine, served as witnesses for the defense in the trial of a dishonorably discharged veteran who was convicted of murder and subsequently executed. The present paper will: (1) briefly describe the circumstances of the crime; (2) summarize the extensive clinical findings which lead to a diagnosis of constitutional psychopathic inferiority; (3) present a theory concerning the motivations of the crime; (4) point out certain apparent implications of the case to military and civil jurisprudence.

Influence of college mathematics, science, and commercial courses on development of attitude toward evolution. *Key L. Barkley, Woman's College of University of North Carolina.*

Groups of freshmen who elected a liberal curriculum containing a year course in biology, chemistry, mathematics, both biology and chemistry, or a one year commercial curriculum not containing any science courses were given the Thurstone Attitude Toward Evolution Scale in the fall and in the spring.

When first tested, the groups who elected the different science courses or mathematics were not sig-

ificantly different from each other in attitude toward evolution, except that the ones who majored in science and elected both biology and chemistry were reliably more favorable in attitude than the group which elected chemistry only. All the groups which chose the liberal courses were reliably more favorable in attitude than the one which chose the commercial curriculum, except the one which elected chemistry only.

During the year, the natural science groups made reliable changes to a more favorable attitude, but the mathematics group had a critical ratio of 2.48. The commercial group did not make a significant change in mean scores.

As a result of the changes, the group which studied both biology and chemistry was reliably more favorable in attitude than any other science or mathematics group at the second testing. Moreover, all the science and mathematics groups were more favorable in attitude than the commercial group.

Studies in science and mathematics tended to promote development of a more favorable attitude toward evolution, but a curriculum which did not contain any science courses tended to leave the student with his attitude unchanged.

The development of internationalist attitudes.
Llewellyn Queener, University of Tennessee.

Several writers have objected that too many studies of attitude formation neglect promising hypotheses, limit their sources to convenient academic situations, and "explain" the attitudes of statistical, rather than concrete, human beings. The present research sought to avoid these criticisms partially by employing two promising hypotheses, drawing materials from business men, and by substantiating conclusions in life histories as well as in scores. The hypotheses were (1) that attitude is positive imitation of prestiged cue-givers, and (2) that attitude is a *negative* imitation of non-prestiged cue-givers. Both are based upon the learning principles developed in Miller and Dollard's *Social Learning and Imitation*.

Fifty upper-middle-class men served as respondents, materials being gathered in interviews and converted into quantitative form by a system of ratings. The ratings were checked for reliability, in turn, by two other raters. Internationalists—designated by "action" as well as attitude criteria—differed from nationalists in terms of the above hypotheses by easily significant differences, and life

history materials seemed to substantiate the differences amply. One of several further hypotheses suggested by the material was that attitude is a form of aggression against non-prestiged (frustrating) sources.

Publications in psychology during the war years.
Stanford C. Ericksen, Vanderbilt University.

To obtain quantitative data reflecting current trends in psychology, the *Psychological Abstracts* for the past ten years have been analyzed. We are interested in two main problems: (1) What has been the relative frequency of abstracts in the separate fields, and (2) what changes have occurred in these proportions that indicate any significant trends in psychological research?

The results show several sharp and significant contrasts, and are interpreted to support the primary role of experimental psychology in the scientific approach to the understanding of human nature.

Friday Evening

Presidential Address: Evaluation of the Criteria of Higher Education

B. VON HALLER GILMER, *Carnegie Institute of Technology*

Saturday Morning

Joint Session

B. VON HALLER GILMER, *Chairman*

Aesthetics and metaphysics. *Herbert Sanborn, Vanderbilt University.*

Traditional and current discrepancies with respect to the nature of aesthetic experience result largely from the incomparable complexity of the work of art and the aesthetic object with which this is often confused. Works of art are variously appreciated on account of the variety of values insinuated into them from the different levels of culture in creator and observer. Psychological analysis on the plane of common sense dogmatism fails, in its reduction to disclose any pure aesthetic quality as an effect of one or many causes; as a function of wholes this would not lie within the purview of the limited frame of reference available in psychologism and the science of art, while criticism, with more nearly complete orientation, still leaves problematic any attempted logicizing of the alogical and non-problematic, and the general unsolved question of aesthetic autonomy.

Intellectual, emotional, hedonistic, expressionist

and historical interpretations rest, consciously or unconsciously, on systems of metaphysics, which may be regarded as partial views or stages in dialectic, pointing away from initial dogmatism toward increasingly inclusive concrete systems. These should furnish relatively adequate backgrounds for the progressive solution of typical aesthetic problems, such as the dialectic of ugly and beautiful; sensationistic and ideal feeling; the assimilation and reconciliation of alien values in works of art; form, matter, and content; and the fundamental dialectic of subject and object.

Basic dimensions in the description of personality.

Elizabeth Duffy, The Woman's College of the University of North Carolina.

A major problem in any science is the selection of appropriate descriptive categories. These categories should represent single, basic aspects of phenomena which are measurable, and they should be as few as will permit the description of all functionally significant variables. The categories now employed in personality description fail to meet these requirements.

It is suggested that personality be described in terms of the *direction* and the *energy mobilization* of response. These descriptive categories, derived from the concepts of general psychology, appear to represent basic aspects of behavior. They also appear to be of universal descriptive validity, since they apply to all organisms and are valid for any culture. The particulars of description are supplied when we specify the objects, persons, or aspects of things toward or away from which the individual moves with a given intensity.

It is the contention of this paper that the proposed dimensions of behavior are functionally significant, inclusive, and measurable, and that a wide variety of trait names can advantageously be translated into these terms.

Psychoanalytic therapy versus psychoanalytic rationale. *H. M. Johnson, Tulane University.*

I call "psychoanalytic" what Freud called psychoanalytic. All others who used the term otherwise he called plagiarists and imposters. One

psychologist who recently underwent psychoanalysis at the expense of one of the foundations, in order to round out his personal and professional experience, insists that one must distinguish sharply between psychoanalytic therapy and its rationale. His "analysis" was not completely successful, and he overlooks the main thesis of this paper. That is, that the rationale is the therapy. To get a psychoanalytic "cure" the patient has to learn to describe his symptoms according to the technical language of the Freudians, and account for them in terms of repression and resistance. "Transfer," of course, occurs in the process. The author contrasts this thesis with a psychological hypothesis: namely that functional neuroses have their origin in egocentricity (in other words, in plain selfishness); that the *egocentricity* will not be tolerated in the raw; that the patient therefore learns to rationalize it, thus building up a pattern of *conceit*; and that social non-acceptance gives rise to *suspicion*. The therapy that this hypothesis implies is utterly different from psychoanalytic therapy. If the psychoanalytic therapy is successful, then: (1) the patient may be just as selfish or egocentric as he ever was; (2) he is happy in being so; (3) he has learned to rationalize and dramatize his selfishness; (4) he has learned to "reason" in terms of Freudian anti-logic; (5) he has become a missionary. One may seriously question whether his last state is not worse than his first. He was a nuisance to begin with; he is a nuisance still—only to some onlookers he presents a more favorable appearance than at first.

On the role of hypothesis in scientific investigation. *L. O. Kattsaff, University of North Carolina.*

This paper will consider briefly the way in which the hypothesis functions in an actual case of scientific investigation. The usual criteria for accepting an hypothesis will be briefly mentioned. It will also be shown how even an acceptable hypothesis may have certain obstructive tendencies. A direction of investigation is frequently blocked by the kind of hypothesis accepted by the investigator even though that hypothesis may satisfy the formal criteria listed in textbooks of logic. Brief consideration will be given to the general problem of the relation of the hypothesis to the direction of investigation.

PROCEEDINGS OF THE TWENTY-EIGHTH ANNUAL MEETING OF THE WESTERN PSYCHOLOGICAL ASSOCIATION

LESTER F. BECK, *Secretary-Treasurer*

University of Oregon

THE Western Psychological Association held its twenty-eighth annual meeting at the Whitcomb Hotel in San Francisco, June 17-18, 1948. Local arrangements were handled by Ruth Thomson and Dan Adler with the assistance of members of the Psychology Club, San Francisco State College. Registered for the meeting were 249 members and some 50 visitors.

The convention began with an address of welcome by Dr. J. Paul Leonard, President of San Francisco State College. This was followed by fifty-three experimental and theoretical papers, delivered during the two-day sessions. A round-table discussion of "Methods of Teaching Psychotherapy" was conducted the afternoon of the first day by Roy M. Dorcus, Robert Harris, Howard Hunt, Lloyd Humphreys, S. M. Wesley, Leona Tyler and Mortimer M. Meyer. An open discussion of the need for state psychological societies was held the afternoon of the second day under the direction of Neil Warren and E. R. Hilgard.

The presidential address, "The Psychosociology of Urban Subcultures" was delivered by R. C. Tryon following the annual banquet. Among those attending the banquet were Lewis M. Terman, George M. Stratton and E. C. Tolman, who were instrumental in forming the Association in 1921.

Officers of the Association, elected for the year 1948-1949, are: President, Ralph H. Gundlach, University of Washington; Vice-President, Floyd L. Ruch, University of Southern California; Secretary-Treasurer, Bruce Fisher, Fresno State College. In the course of the business meeting a resolution was adopted commending the San Diego Journal and the Los Angeles Examiner for a series of newspaper articles condemning unethical licensing procedures of so-called "consulting psychologists" in the Southern California area.

The Association will hold its 1949 meeting in June on the campus of the University of Oregon.

PROGRAM OF PAPERS

Thursday Morning, June 17

Session I-A: Experimental & Theoretical

E. R. HILGARD, *Chairman*

The place and organization of psychological work at the Navy Electronics Laboratory. *Arnold M. Small, Navy Electronics Laboratory, San Diego.* From the inception of the Navy Electronics Laboratory as it now exists, psychology has been accorded a place among the sciences which contribute to the solution of the Laboratory's research and development problems. Until recently, the work in psychology has been carried on by three sections scattered throughout the scientific units in the organization at large, with the psychological consultant on the director's staff serving as coordinator and planning advisor. With the growth of the Laboratory and its investigative responsibilities, with further recognition of the part which psychology can play in its research, with the need for increased Navy facilities to digest results of university research findings and apply them to Navy problems, and with the desire to develop professional opportunities of a high level in psychology at the Laboratory, a new Psychological Studies Division has just been established at the Navy Electronics Laboratory in the Research Department. This division will include six sections designed to cover a wide range of investigative problems. These are described. Positions at all levels of training and experience in psychology are included in the division. In addition to psychologists, the division will include education specialists, electronics engineers, and statistical and clerical personnel.

Player intonation differences as related to the bell taper on trumpets. *John C. Webster, Navy Electronics Laboratory, San Diego* (introduced by A. M. Small).

Six differently shaped trumpet bells were built and a trumpet altered so that these bells could be easily attached. The internal tuning of the test trumpet using these bells was determined by both a physical measure of air column resonance and by a group of five players. The internal tuning was recorded in cents deviation (hundredths of a semitone) from equal tempered tuning on all thirty-one chromatic notes from $F\sharp_3$ to C_6 (written).

An analysis of variance and other statistical techniques were applied to the data to determine the relationship between the physical and player method of determination, the variability among the five players, the variability of their five trials, and the relationship of all of these factors to the shape of the bell taper.

The results show the trial variance not to be statistically significant, the player variance to be significant and dependent on both bell taper and the position of the note in the musical scale. The difference between the physical measure and the players was small except in the lower ranges of the instrument where the air column resonance had little influence on the player's idea of the correct intonation.

Influence of the preceding item in measurements of the noise-masked threshold by the constant method. *Tillman H. Schafer, Navy Electronics Laboratory, San Diego* (introduced by A. M. Small).

It was found that when three-second tonal signals were presented at five-second intervals at different levels over a range of 16 db in a constant background of thermal noise, the number of equally intense signals detected near threshold varied approximately 25 per cent as a function of the intensity of the preceding item. A relatively intense preceding item reduced the percentage detected, a moderately intense preceding item increased it, and a preceding item of the same level as the item itself slightly reduced it.

It is concluded that masked auditory threshold measurements will be subject to error unless the preceding item dependence is taken into account in the test design. A method of mitigating the influence of the preceding item through a special arrangement of the stimuli is described.

Professor Boring's robot becomes emotional. *M. A. Wenger, University of California at Los Angeles.*

In Professor Boring's 1946 inventory of psychological functions which are reproduceable in a machine, he omitted "intelligence" and "emotion". He suggested that since we cannot generalize the mechanistic properties of these concepts we should discard them. It is the contention of this paper that (1) Boring's inventory already provides for intelligent behavior, and (2) the mechanistic properties of emotion may be generalized if the machine be so constructed that it responds in certain ways to its own needs.

The physical needs of a hypothetical robot are discussed and found to be quite similar to those demonstrated by protoplasm. A robot may be made reactive to these needs in terms of thermostats and other indicator switches, and in terms of an inner effector circuit (A) which will serve to increase the vigor of overt behavior. A second inner circuit (B) will serve to restore circuit A to its pre-stimulation state. Robotic emotion is defined as activity of these inner circuits. It may be made known to observers by appropriate indicators.

Under the present formulation it is claimed that certain of the traditional emotions can be reproduced in a robot (e.g., unpleasant and pleasant excitement, relief, satisfaction, depression) and that certain forms of "neurotic" and "psychotic" behavior become possible.

Some implications for psychology on the concept of central nervous recircuiting. *F. Nowell Jones, Washington State College.*

Recent research and theoretical work in the field of neurophysiology have demonstrated the importance of the concept of recircuiting for an understanding of the psychological activities of the total organism. These recircuits work not only within the tissues of the cortex itself, but also, and probably more importantly, between cortex and thalamus, cortex and cerebellum, and cortex and hypothalamus. It also is possible to consider recircuits passing through the musculature and also extending outside the organism and having their reaction upon the organism through its extroceptors.

The implications of these structural and functional relationships for psychology are considered. Most of the discussion is directed at the problem of maintaining consistency of set and motivation in the organism.

It is contended that the concept of recircuiting provides a useful and important way of understand-

ing certain of the sustained activities of the organism. It also is suggested that the complexities of neural activities within the organism make hazardous any attempts to understand the organism solely in terms of stimulus and response.

The stimulation of nerves by means of radiant energy. *J. A. Gengerelli, University of California at Los Angeles.*

A modified radar signal generator, equipped with a dipole antenna system, was used to apply power to a small aerial mounted on the animal's head and neck.

The energy output of the oscillator was controlled by a pulsing unit which produced a square pulse at repetition rates varying from 5 to 500 pulses per second. The duration of the pulse also varied; however, the pulse width used in the work to date was of the order of .1 msc. The pulsed RF produced by the oscillator was of the order of 300 megacycles.

The pick-up system carried by the animal (rat) was constituted of a straight wire antenna, 2-4 inches long, a small silicon crystal which rectifies the RF energy, and two electrodes.

In the preliminary work, it was possible to stimulate an anesthetized animal at a distance of several feet from the power source. Using various repetition rates, the animal's head and shoulders showed a marked clonus of which the frequency varied with the repetition rate used. As the repetition rate approached 60, the response became a fine tremor and disappeared at higher rates.

The effects of repeated rotary acceleration on the oculogyral illusion. *Brant Clark, San Jose State College, and Kenneth MacCorquodale, University of Minnesota.*

The effects of repeated angular acceleration on visual perception were studied in three subjects to determine whether habituation would occur in the apparent motion of an isolated target in the dark (oculogyral illusion). The subjects were rotated about a vertical axis for a series of trials on 14 successive days. They observed a complex target in the dark and reported the onset and offset of the oculogyral illusion following both acceleration and deceleration for each trial. Although the subjects reported illusory effects similar in nature and duration to those found in other studies, analysis of three types of apparent motion of the target pro-

duced no evidence of habituation for any one or for the total duration of the effects observed. (The data for this experiment were obtained at the Naval School of Aviation Medicine and Research, NAS, Pensacola, Florida).

Session I-B: Perception and Projection

RUTH H. THOMSON, *Chairman*

Some objective aspects of fantasy production in schizophrenia on the Make-a-Picture-Story (MAPS) Test. *Edwin S. Shneidman, University of Southern California.*

The Make-A-Picture-Story (MAPS) projective personality test (in which the subject populates several background pictures with selections from among 67 cut-out human-like figures and tells a story for each background) was administered to 50 schizophrenic and 50 normal subjects. The purposes were to investigate psycho-social aspects of fantasy production, to ascertain the objective aspects of test performance other than story content which statistically differentiated the two groups, and to establish tentative objective norms.

Accordingly, such factors relating to figure use as selection, number, placement, etc., were analyzed. Approximately 800 possible "signs" were evolved. Using only those signs which statistically differentiated the two groups, a score was obtained for each subject.

A statistical study was performed by dividing the two groups in half and comparing the scores for the first halves of each group. The obtained key was then applied unchanged to the second halves. The Critical Ratios of the differences yielded probabilities at the 99.7 and 99.9 levels, for the schizophrenic and normal groups, respectively. When the data were pooled, a comparison of the two total groups resulted in a Critical Ratio of 11.20.

Several qualitative clinical interpretations of schizophrenic fantasy production in terms of the statistically significant MAPS test signs are discussed.

The use of the Make-a-Picture-Story (MAPS) Test with disturbed adolescents. *Walther Joel, Napa State Hospital.*

In 1947, Shneidman reported on a new projective technique, the Make-a-Picture-Story (MAPS) Test. Shneidman's work was done with adults. This is a report on the use of the MAPS test with disturbed adolescents in a mental hospital. The technique

was found well suited for these subjects. Results are presented on: number of rejections, number and choice of figures in relation to background pictures, number of figures per story per subject, frequency of choice per figure, etc. Some possible indicators of pathology are suggested. Minor modifications of the test and its administration are proposed.

Some relations between own age and ages assigned on the Draw-a-Person Test. *George F. J. Lehner and Hyman Silver, University of California at Los Angeles.*

Due to the increased use of the Draw-a-Person Test as a clinical diagnostic device, it seemed desirable to make an experimental analysis of certain indices frequently employed in clinical interpretations. This report, one of a series, concerns itself with the relationships between the subject's own age and the ages assigned to the figures produced in the test situation.

The data obtained provide information concerning such relationships as that of own age of men and the age assigned to the male and female figures, own age of women and the age assigned to the male and female figures, own age and differences in assigned ages between the male and female figures, and the relation of these variables to the sex of the figure drawn first.

An interpretive hypothesis for these data is presented.

The Projective-Motor Test. *Maurice Rapkin, University of Southern California, and William H. Wheeler, University of California at Los Angeles.*

The Projective-Motor (P-M) Test is a recently developed projective technique which departs from currently accepted techniques in eliciting motor as well as verbal associations to stimuli. Its development follows from recent interest in the neuromuscular correlates of psychological structure.

S is presented serially with 40 stimulus words and asked to produce rapidly a symbol or "doodle". He then is asked to recall the stimulus words. The meaning of each word-symbol relationship is then explored by a systematic inquiry. First, S explains the connection between his recalled word and his symbol. After correcting the misremembered words, S explains the original association. He then is asked to "show where you are in relation to your symbol". Following this, he rates the quality of each production, using his own criteria. And

finally, he indicates the predominant affect-loading of each symbol.

The present individual and group forms, the result of about a year's empirical work, have been found useful for diagnosis and therapy. Thus far, no objective scoring is available.

In addition to eliciting material which lends itself to content analysis, the technique offers possible approaches to the study of selective forgetting and to the relationship between psychological and neuromuscular tension.

A method for the analysis of the Thematic Apperception Test. *Betty Aron, University of California* (introduced by R. Nevitt Sanford).

The Murray-Sanford method for analyzing the TAT has been revised in such a way that the variables into which story protocols are analyzed are psychologically more significant. The changes were based on results from applying the Murray-Sanford scheme in both social-psychological and clinical research. New indices have been added that make it possible to examine a given variable in relation to the context in which it is expressed. Furthermore, the variables are presented within an organized theoretical framework of psychoanalytic systems of motivation. The scheme examines manifestations of level of psychological development, type of ego defense, superego influences, as well as the prevailing moods and sensations. Inferences concerning the organization of forces operating within the personality thus become possible. In order to test the applicability of the final scheme to personality research, it was used in the analysis of several sets of TAT protocols. A comparison of 13 stories from hypertensive individuals with 19 stories of non-hypertensive subjects revealed striking differences in the patterning of summarized variable scores.

Visual threshold as a function of simplicity of form. *Julian E. Hochberg, Henry Gleitman, and Philip D. Macbride, University of California* (introduced by Egon Brunswik).

Deducing from Köhler's physiological Gestalt models, "better" and/or "simpler" figures should possess lower thresholds. Conflicting reports of previous investigators showed lack of consideration for area of figure and specific framework effects. In the present experiment, one of a series of hypothetico-deductive investigations using Gestalt hy-

potheses, framework effects were minimized by projecting white figures onto a screen in a fairly darkened room. Furthermore, the three figures exposed, namely solid circle, square, and block cross, were of equal area. They were presented in ascending intensities controlled by an iris diaphragm. Serial effects, fluctuating line voltage and room illumination, etc., were effectively eliminated by grouping the 67 student subjects.

In accord with predictions, threshold for form was found to increase with the criterion of simplicity chosen; i.e., with compactness as defined by ratio of perimeter to area. The circle had the lowest threshold, the square next ($CR = 2.37$), the cross the highest (CR with square = 6.66). Further study of sub-threshold developments and explorations of effects of differential foveal overlap is in progress.

Statistical separation of perception, thinking, and attitudes. *Egon Brunswik, University of California.*

Perceptual attitudes: Instructions alternately emphasizing two or more variables in the field were applied to Müller-Lyer illusion and perceptual thing-constancy including the tactile-kinesthetic appraisal of speed, kinetic energy and weight of falling balls. Number and location of modes of the frequency distribution of estimates constituted, without recourse to introspection, an indicator of the number and directedness of identifiable attitudes maintained; skewed distribution established violation of instructions in individual cases.

Thinking vs. perception: Tasks in size-constancy were presented once in direct perceptual observation, once as arithmetic reasoning problems. Intuitive perception yielded a compact and fairly normal distribution, the intellectual approach comparatively frequent "on-the-dot" correct responses, erratically accompanied by isolated "towers" representing typical confusions and by scattered, sometimes way-off, bizarre mistakes pointing toward a dangerous onetrack quality inherent in explicit reasoning. Such differential analysis of errors helps to establish the functional independence of perception and thinking and allows their mutual delimitation, again on an objective basis.

Superimposition of perception and thinking: Critical or "betting" attitudes, calling for rational amendment of intuitive impressions, reveal aspects of the interplay between cognitive functions.

Thursday Afternoon, June 17

Session II-A: Mental Tests

MAUD MERRILL, *Chairman*

Consistency and variability of mental test scores from three months through eighteen years for a constant case sample. *Nancy Bayley, University of California.*

Some further analyses have been made of the mental growth of children in the Berkeley Growth Study. To determine more accurately age changes in variability and consistency of scores, a constant subsample was selected, composed of 27 cases tested at 23 ages, from 3 months through 18 years. Standard deviations of IQ's show the same pattern of age changes as for the total group; that is, S. D.'s decrease during the first years, increase to 11 years, then decrease again to 18 years. Also, this sample shows the same trends of correlation between tests at different ages. Test scores earned before 2 years are unrelated to test scores after 7 years. Starting at 2 years positive retest correlation continues through 18 years; after 7 years the r 's usually remain above .70 even for an interval of as long as 11 years.

The hypothesis is developed that some of the age trends in variability are due to factors inherent in the processes of mental growth. The two cycles of increasing and decreasing variability, as well as the lack of correlation between the scores in these two periods, point to successive growth of two independent functions.

Testing sixth grade children of El Salvador with the Stanford-Binet (1937). *Esther Allen Gaw, Berkeley.*

In 1947 161 children of the sixth grade in elementary school were tested by means of the recent Spanish version of the Stanford-Binet translated by Dr. José Germain of Madrid, Spain. Of the total number 94 were boys and 67 were girls. One school of the seven tested was coeducational and private. The other schools were public schools of San Salvador.

Two observations are reported: (1) The vocabulary as it stands—an almost literal translation of the English of Terman-Merrill—is easier for the Salvadorian children than the original for the North American children, as judged by the total number of words defined. The Salvadorian definitions of individual words also differ con-

siderably from the Spanish definitions as reported by Germain. (2) The items in the various age levels show themselves "spotty" in correct responses. One reason may be that an item is not adapted to the culture of El Salvador. Another reason may be that the instruction in the schools has not contained that particular bit of knowledge.

The short report contains specific illustrations of these two points and shows IQ's obtained under the conditions of testing; namely, the adaptation of this version to a Central American country.

The use of group tests in diagnosing school causes for delinquency. *Eshiter Grace Nolan, Los Angeles City Schools.*

A battery of five group tests covering intelligence, achievement, personality, mental health, and occupational interests were administered to 49 boys in one of the forestry camps of Los Angeles County. These boys came from public schools and were placed in camp by the County Probation Department.

The study indicates that information about intelligence, educational achievement, social adjustment, and occupational interests of students can enable schools to be of assistance before a young person becomes delinquent. It shows further that the school program needs to be much more flexible to meet individual differences of all students.

Thirty-five of the 49 boys were repeaters who had been retarded from one to three years during their school career, where such retardation acted only as punishment and retribution, and accomplished no sound educational purpose. The peak of delinquency was found to be at the junior high school level, where 88% of the boys were from the 7th, 8th, and 9th grades.

Mental retardation requiring modified curriculum, and reading and language disability requiring remedial instruction were two outstanding problems. The need for personality adjustment, and identification and development of occupational interests were other problems disclosed.

An analysis of subtests in the Wechsler-Bellevue Verbal Scale (Form I) administered to 139 delinquent Mexican boys. *Gerald L. Hodgson, California Youth Authority.*

This study deals with three problems: (1) to ascertain the discriminative value of the subtests with the Normal, Dull-Normal, Borderline, and

Mentally Deficient groups, (2) to inspect the subtest patterns, and (3) to make a difficulty analysis of the Comprehension and Similarities tests.

The sampling consisted of 139 Mexican boys committed by the Court to the California Youth Authority. Chronological age range of the group was from 14 to 19 years; mean age 16.7 years. Subjects were grouped on the basis of the verbal IQ: 43 normal, 49 dull-normal, 34 borderline, and 13 mentally deficient.

The results indicate: (1) The verbal subtests statistically differentiate the mental groups in the study with two exceptions: (a) Digit Symbols did not significantly differentiate between the borderline and mentally deficient, and (b) Similarities did not significantly differentiate between the normal and dull-normal groups. (2) Relative order of performance by the total group from best to poorest was Comprehension, Similarities, Digits, Information, and Arithmetic. (3) Order of difficulty based on an item analysis of the number passing questions in Comprehension and Similarities tests indicates substantial variation from Wechsler's sequence. An analysis of one and two scores for each question in the two tests indicates wide variability in qualitative difficulty with this population.

Some relationships among mental abilities and mental aberrations. *Marion H. Groves, University of California at Santa Barbara.*

Some results from an analysis of 21 arbitrarily arranged W-B subtests on 430 cases of mental aberration representing 14 categories are presented. Psychopathic deviates, exhibitionists and schizophrenic personalities appear to be highly similar in their profiles of mental abilities, differing in a unitary manner from the other categories. The subtests on which they do poorly suggest "social inferiority" as an inclusive term descriptive of these categories.

Deteriorated and undeteriorated alcoholics have similar profiles in terms of relative high and low scores, while the differences in scores between the two categories range from essentially zero to .01 significance. Comparisons indicate that verbal ability and perceptual speed are affected first and worst by alcohol, that reasoning, learning, and set of tolerance are the last to be affected, at which time they undergo rapid deterioration, and that serial memory, remote memory, space ability, and number ability undergo slow deterioration from the

outset. Analysis of five deteriorated categories, in terms of the relative deterioration in the separate abilities, strongly suggests that the deterioration pattern is not general, as is assumed in deterioration ratios, but tends to be specific to the category.

Session II-B: Test Analysis

NEIL WARREN, *Chairman*

Factorial content of wrong-response scores of aptitude tests. *Benjamin Fruchter, University of Southern California.*

Two matrices of intercorrelations were factored. One consisted of the right-response scores of 24 experimental aptitude tests, administered under time-limit conditions to unclassified aviation students. The other consisted of the wrong-response scores of the same tests. To each matrix was added the formula scores of seven reference tests of well-established factorial content. The N 's of the correlations ranged from 385 to 8158. Nine factors were essentially the same in both analyses and were identified as verbal, visualization, perceptual-speed, general-reasoning, numerical-facility, space-relations, visual-memory, length-estimation and paired-associates memory. A tenth factor appeared in the wrongs-score analysis only and was tentatively identified as a sequential-reasoning factor.

The major conclusions are: (1) The right-response and wrong-response time-limit scores of an aptitude test may differ considerably in factorial content, and formulas for combining them should be derived in accordance with the principles used in combining scores from separately administered tests. (2) More meaningful use can be made of aptitude test results if the factorial content of the right-response scores and wrong-response scores is known and a scoring formula developed which combines the factors in desired ratios or yields a pure measure of a factor.

A comparison of two methods of analyzing a set of data on intelligence test performance. *William A. Wilson, Jr., and Ernest A. Haggard, University of California.*

The purposes of this paper are, first, to compare the advantages and disadvantages of the Johnson-Neyman method of testing linear hypotheses with the Fisher analysis of variance technique; and second, to present the general types of results that may be obtained by each method.

Upper-class ($N = 339$) and lower-class ($N = 333$) children were tested. The subjects were 11 and 12 years of age. Data on each subject included: age, sex, IQ, socio-economic status, school grade, school, and teacher. Factorial design was used to study the effects of practice, motivation, and the form and manner of presentation of the test. The experiment covered a five-day period: day 1, initial test; days 2-4, practice on similar items; and day 5, retest.

The Johnson-Neyman method provides a comprehensive analysis of the data, including findings not available by the established Fisher techniques. That is, more general hypotheses can be tested without the necessity for artificial equating and matching of groups, and the consequent discarding of data on otherwise available subjects. Classical analysis of variance methods provide equivalent findings when the experimental setup is so restricted and fashioned as to allow their use. Comparisons are made of the various hypotheses tested and the corresponding F -values for each method.

This experiment was conducted by the Committee on Human Development, University of Chicago.

An exploratory study of the constant-sum method: a technique for quantitative reporting of comparative judgments. *Constance Lovell, University of Southern California.*

University students were asked to express preferences for nine men's ties and preferences for nine states as places in which to live. Three methods of making judgments were used: paired-comparison, rank-order, and constant-sum (a technique that involves putting items in rank order and then distributing 100 points among them so as to reveal relative preferences). For each set of data were obtained paired-comparison scale values (Guilford's composite standard method), mean rank orders, rank-order scale values (Guilford's composite standard method), and mean constant-sum values. For the ties, paired-comparison scale values were computed with Thurstone's Case III.

* High correlations between the various measures were found. The constant sum values were somewhat more similar to the values obtained by the other methods for the ties than for the states. Analysis of the two situations revealed a limitation in the rank-order and paired-comparison methods when dealing with situations involving extreme stimuli. The constant-sum method provides a

means of overcoming this difficulty, and, since it requires relatively little time, is suggested as an advantageous supplementary technique.

The use of a multipurpose rank-rating scale for personnel evaluation and preference research.

Paul C. Buchanan and Llewellyn N. Wiley, Veterans Administration, Los Angeles.

A system of combined ranking and rating developed by Wiley for use in esthetic judgments was tried out as an evaluative device on police personnel in the Los Angeles Police Department. The system is exceedingly simple and very elastic. One hundred-fifty officers were rated by two lieutenants and two sergeants in 25 minutes per rater. Pearson correlations between raters exceeded .50. The correlation between a lieutenant and sergeant paired against a lieutenant and sergeant was .59, which yielded a Spearman-Brown reliability over .70 for combined scores. "Retest" reliabilities were much higher.

The technique has varied applications which are described. Its advantages involve:

- Flexibility in application to the kind of thing rated.
- Ease of understanding the rating task.
- Ease of making and recording judgments.
- Speed of operation.
- Possibility of combining samples appearing in different populations rated by different raters.
- Meeting the major criticisms brought against the three standard techniques of rating scales, rank ordering, and paired comparisons.

Incidence of accidents as a function of length of working hours. *Edward W. Minium, University of California.*

The relationship between hours of work and the occurrence of accidents is an important consideration in practice and in theoretical aspects of accident causation. Logical expectation has led to the belief that, as the length of the work day increases, there will be a disproportionate rise in accidents, attributable to increased severity of fatigue or monotony. This hypothesis is examined more closely. The various factors which may be expected to affect the relationship between accidents and hours of work are discussed, and a short summary of previous findings is presented.

Results of an investigation of 142 street-car

motormen are reported, where length of the run varied from 8 to 12 hours. Findings are not in accord with the "fatigue" hypothesis. The association of the number of hours of work with other relevant variables is examined.

The conclusions are that the relationship between accidents and hours of work is readily affected by a number of variables, and that accident incidence must be studied in each situation with reference to the conditions of work and the nature of the job. Both the present investigation and previous findings support this viewpoint.

Session II-C: Diagnosis and Therapy

ROY M. DORCUS, *Chairman*

Wechsler's signs in the differential diagnosis of schizophrenia. *Louis S. Levine, Stanford University.*

In an attempt to evaluate the diagnostic system put forth by David Wechsler in "The Measurement of Adult Intelligence, Third Edition", the following plan was carried out:

All accessible patients meeting certain minimal criteria, who entered the Palo Alto Veteran's Hospital between Jan. 1, 1947 and May 1, 1947 were given Form I of the Wechsler-Bellevue Intelligence Test. Tests were scored in accordance with standardized procedures and the diagnostic signs were computed. Test records were transcribed from the original; all identifying data were omitted from the copy which was then given a code number. Subtest deviation symbols were recorded next to the weighted scores. Five clinical psychologists, utilizing the transcribed records, then made an individual diagnosis on the basis of Wechsler's signs for each case in the sample population. Agreement between hospital diagnoses and the diagnoses made on the basis of Wechsler's signs was determined for a schizophrenic-nonschizophrenic dichotomy. Lastly, the extent of agreement among psychologists' diagnoses was determined.

In general, the results indicated that the agreement between the criterion and blind diagnoses made from the test records was of borderline statistical significance. The disagreement between blind diagnoses and hospital diagnoses varied from 32.8% to 40.3% of those cases classified.

A psychologist uses hypnosis in private practice. *Louis Gellermann, Human Relations Counseling Center, Seattle.*

A completely successful painless childbirth with no anaesthesia other than hypnotic suggestion is explained. Other uses of hypnosis are described, including cases of:

- (1) Anaesthesias, such as hypnotic and post-hypnotic dental, headaches, backaches, post-operative pains, mumps.
- (2) Habit change, such as alcoholism, tobacco, sleeping tablets, check forging, late rising.
- (3) Impotency and frigidity.
- (4) Hypno-analysis and emotional stabilization.
- (5) Insomnia, tics, itching, etc.

All this work was done in close cooperation with the medical and dental professions.

Reactivation of mother-child relationships in hospital group therapy. *Hendrik Lindt, Veterans Administration Neuropsychiatric Hospital, Los Angeles.*

This paper reports some observations of a group therapy project in a neuropsychiatric hospital setting. It grows out of experience with a group that met five days a week from July, 1947 to June, 1948. From 7 to 11 persons attended the therapy sessions. The typical patient was male, a veteran of World War II, 25 years of age, a voluntary admission to the hospital, and attended the group sessions approximately three months. Most of the patients were severe psychoneurotics; occasionally psychotics in remission were group members.

Group therapy was planned to emphasize and to reactivate mother-child relationships and problems centering around this area. The following specific techniques were employed: (a) A mother figure was employed in the person of a woman attendant. The presence of a female appeared to facilitate the expression of the patient's feelings regarding women in general and their mothers in particular. (b) The group leader attempted to create a completely permissive atmosphere. Analysis of each patient's problems by other patients was encouraged. (c) "Miniature psychodrama" was employed, using the technique developed by Dr. George R. Bach. The MAPS Test also was employed. It was felt that this kind of vicarious psychodrama permitting, as it does, freedom of expression and moral support of the person with weak imagination, was helpful in promoting the therapeutic process.

The results indicated that the hospital, with its freedom from responsibility, had come—in many ways—to symbolize "mother" and maternal care to the dependent patient. It was further evident

that many patients reacted to hospital restrictions and routines as they had previously to their mothers.

It is felt that definite advantages are obtained from group therapy of this kind. By constant cooperation among all the social scientists active in the hospital, maximum benefits for the patient are facilitated.

Hostility patterns in group therapy. *Stewart B. Shapiro and George R. Bach, University of Southern California.*

Interactions of therapists and adult patients in group therapy were systematically observed and categorized by means of a modified Lewin-Lippitt interaction recording technique. This procedure was aided by magnetic wire recordings of the same sessions, which were then clinically analyzed by two researchers. A number of different types of expressions and suppressions of aggression emerged which seem to fall into patterns similar to those described by David Levy in children. An attempt was made to specify differential instigating conditions for each of these hostility patterns.

Theoretical and technical explorations in group methods of psychotherapy. *George R. Bach, Virginia Armon, Gene Barker, Hendrik Lindt, Stewart Shapiro and Nellie Young, University of Southern California.*

This is a preliminary report on a long-term cooperative research project on the dynamics of group psychotherapy. Therapy sessions have been conducted with groups of subjects in these settings: (1) Psychoneurotic clients (out-patients), (2) Severe neurotics and psychotics in remission (hospitalized), (3) Children referred for psychological treatment, (4) Mothers of the referred children, (5) Non-clinical (normal) comparison groups. Systematic observations aided by 40 one-hour magnetic recordings brought to light certain characteristics of personal interactions and of group behavior processes: (a) Instigating techniques of therapists (fathering, modeling, etc.), (b) Response patterns (protection, hostility, confessions), (c) Social processes (group cohesion, disintegration, locomotion). The investigators are studying within a framework of practical therapeutic services the relationships that may exist between these factors. Preliminary results of this effort with descriptions of techniques, such as "miniature psychodrama" and "mirroring" are reported.

Friday Morning, June 18

Session III-A: Learning

CALVIN P. STONE, *Chairman*

Place learning versus response learning. *Merrell E. Thompson, New Mexico State College.*

Tolman holds that where there are marked extra-maze cues, place learning is simpler than response learning. The author believes that Tolman's results can more adequately be explained in terms of: (1) inequal variability of cues for the two groups; and (2) work inhibition. The basic assumption is that the act of turning right (or left) generates temporary inhibition against repeating that act. Tolman's experimental method was such that work inhibition interfered with the learning of the response group and favored the learning of the place group. Extra-maze cues remained constant for the place group and varied for the response group.

To test this hypothesis Tolman's study was repeated with two major changes: (1) 15 minutes elapsed between trials; (2) a light was suspended over each food box and both were left burning for the response group, while the light over the incorrect food box was turned off for the place group.

The mean number of errors for our response and place groups was 17.7 and 54.3 respectively. The difference in means was significant at beyond the 1% level. The results of this study support the above hypothesis and criticisms of Tolman's work. The significance of this hypothesis for other maze phenomena are discussed.

A study of the relation between drive and habit strength. *John P. Seward, University of California at Los Angeles.*

The problem was to determine the effect of varying drive on learning a spatial discrimination.

Before the experiment proper, rats under 22-hour thirst drive were given 30 trials in a single-unit alley T maze with water on the preferred side. The T maze was then reversed and the rats were divided into four groups for a three-day training period. Group A (low drive) were given six forced trials a day, three to each side, after one hour of free access to water and wet mash. Group B (high drive) had the same maze practice before their water and mash. Groups C and D were controls, C remaining in their cages, D running five free trials a day thirsty. On the next three days (test period) all four groups ran five trials a day under 22-hour thirst drive.

Data so far obtained indicate that groups B and D make the fewest errors, while A and C follow in that order. These results suggest (1) habit strength is a function of drive strength; (2) even very low drive strength yields appreciable learning.

The generalization of verbal expectations following two conditions of reinforcement. *Lloyd G. Humphreys, University of Washington.*

A previous study reported the generalization of conditioned psycho-galvanic responses following two conditions of reinforcement. For tones 5, 15 and 25 j.n.d.'s removed from the reinforced tone, a negatively decelerated gradient was obtained following 16 reinforced trials (100% reinforcement), a positively decelerated gradient following 16 randomly reinforced trials (50% reinforcement).

In this experiment, 69 subjects were asked to predict whether a light (analogue of unconditioned stimulus) would follow a tone (analogue of conditioned stimulus). Experimental conditions were otherwise comparable with those for psycho-galvanic conditioning. Generalization gradients obtained also are comparable: negative deceleration following 100% reinforcement, positive deceleration following 50% reinforcement. The larger amount of generalization following 50% reinforcement is statistically significant at the 1% level. While there are certain parallels between verbal expectations and eyelid conditioning in human subjects, the relationship with psycho-galvanic conditioning seems even closer. These and other data suggest that the two phenomena reflect the same function over a wide range of conditions.

Some relations between stimuli of varying emotional tone and physiological, verbal, and learning behavior. *Ernest A. Haggard and William A. Wilson, Jr., University of California.*

One purpose of the California Adolescent Growth Study was to investigate interrelations among various forms of behavior over a period of several years. The present study, a part of the more extensive project, was designed to analyze the physiological, verbal, and learning behavior of adolescents to emotionally toned stimuli.

Fifty boys and fifty girls served as subjects. The stimuli were words rated by the subjects as being pleasant, indifferent, and unpleasant, so that each word was assigned an affective index score. Recorded responses included galvanic skin response, verbal responding time, and learning score of each subject to each stimulus word.

The following relationships were found to exist for both boys and girls: emotionally toned stimuli elicited the galvanic skin response significantly more often, the magnitude of this response was significantly greater for the emotionally toned words, and the verbal responding time to the emotionally toned words was significantly longer. In addition, positive relationships were found between the subjects' ratings of the emotional tone of the stimuli and the magnitude of the galvanic skin response, and between the magnitude of this response and the degree to which the stimuli were learned.

Effects of electroconvulsive shock on maternal behavior in the white rat. *H. Eger Rosvold, Stanford University.*

Maternal behavior of the white rat is severely impaired by electroconvulsive shocks. The effect is most severe when the shock is applied from the 13th day of pregnancy to the day of parturition. Under these shock conditions the rat does not build a nest, has difficult labor, prolonged parturition, does not care for the young, and fails to nurse them. There is recovery from this effect after a period of approximately 45 days, for the most part.

Shocking during the period of gestation results in a less severe disruption, but the effect of the shock is noticeable in the failure of the young to gain in weight, loss of many young, perfunctory retrieving, and poor maintenance of nests.

Shocking from day 1 to day 15 of pregnancy causes resorption of the fetuses; from day 2 to day 16 causes resorption in about 70 per cent, the 30 per cent carrying through to term; from day 4 to day 18 causes resorption in about 30 per cent, the 70 per cent carrying through to term. Maternal behavior towards the litters carried to term is not as efficient as in the normal animal.

The disruption in maternal behavior is far greater than can be accounted for by the cortical effect of the shock. Evidence suggests an impairment of subcortical function.

Effects of electroconvulsive shocks on rat behavior in a Dashiell-type of water maze. *Gertrude Muhlhan, Stanford University* (introduced by C. P. Stone.)

In a Dashiell-type water maze a control group of albino rats was compared with an experimental group which received a series of 10 electroconvulsive shocks, one per day. Time scores for swimming

from the starting box to the exit did not differ for the shock or the post-shock periods. The control group displayed superiority in learning to choose an economical path, and more quickly tended to take the most direct route from the start to the goal. The data indicate that similar learning tended to appear in both groups; however, the electroshock delayed certain steps in learning on the part of the shocked group. Certain qualitative differences in the behavior of the control and experimental groups appeared but these probably had very little influence on the choice of paths.

Session III-B: Personality Tests

HOWARD R. TAYLOR, *Chairman*

A prognosis scale for shock therapy. *Marvin J. Feldman, University of California.*

This study attempted to devise an instrument which could select patients who respond successfully to shock therapy. The subjects were patients treated by various kinds of convulsive shock therapy. All patients took a Minnesota Multiphasic Personality Inventory before treatment. An item analysis compared the response frequencies of criterion groups which consisted of 40 patients, half of whom were rated recovered and half of whom were rated unimproved. A patient not only had to be rated recovered or unimproved at the end of treatment, but had to maintain that status for a period of one year.

Item analysis produced a scale of 42 items which were significant at the 5% level. This scale was applied to groups consisting of 22 recovered and 22 unimproved patients. The scale differentiated between the groups better than the 1% level of significance, but the overlap between the groups was too great to permit the use of the scale for individual prediction.

The procedure is being repeated with larger criterion groups in an attempt to stabilize the item counts. It is hoped that the resulting scale will be accurate enough to permit individual prediction in clinical practice.

M.M.P.I. correlates of movement responses in the Rorschach. *Grace Thompson, University of California at Santa Barbara.*

The Group Rorschach and the Group Minnesota Multiphasic Personality Inventory were administered to 100 students in a Psychology 1A class at Santa Barbara College in the summer of 1947.

Three types of movement responses in the Rorschach were selected for comparison with MMPI items: human movement seen in small detail blot areas (M in Dd); two or more poorly visualized human movement responses (M-); and four or more animal movement responses (FM).

The students whose protocols fell into each of these deviant categories of movement responses (in each case a distinct minority, the number of cases being 20, 8 and 34, respectively) were contrasted with the remainder of the group on each item in the MMPI. Those MMPI items which showed an overweighting of "Yeses" in relation to the proportion of cases in the two categories, deviant and normal, were retained for consideration.

A qualitative analysis of these items gave some degree of correspondence with conventional Rorschach interpretation of such movement responses, with a greater degree of maladjustment in the form of neurotic apprehensions, withdrawal into fantasy, and anxieties of various sorts appearing in the deviant M groups, those with an abundance of FM showing a slightly different but still maladjusted and rather immature pattern of response.

Correlates of certain M.M.P.I. scales found in the Group Rorschach for 100 "normal" college students. H. D. Altus, *University of California at Santa Barbara*.

One hundred college students were tested on the Group Rorschach and the group form of the Minnesota Multiphasic Personality Inventory. Seventy-five aspects of the Rorschach protocols were quantified and tabulated. The scores on the "neurotic triad" (Hs, D, Hy) were summed as a single score; then, following a Q_4 - Q_1 dichotomizing of the "triad" total, the 75 Rorschach items were thereby analyzed for correlates. The same technique was applied to the Sc and Ma scales of the MMPI. Ten highly discriminating items were selected for each of the "adjustment" criteria, the "triad", Ma and Sc. Each Rorschach record was then scored in terms of the three separate sets of discriminating items. The resulting r 's (Pearsonian) between the Rorschach scorings and the three criteria follow: Sc, .31; "triad", .36; Ma, .56.

While there was not much overlap with the various Rorschach items correlated with the different criteria of adjustment, certain of the traditional "signs" of maladjustment were prominent.

Excess space, FM, M in Dd, M-, m, Adx-Hdx were significantly related to MMPI "maladjustment", as well as low popular percentage and overemphasis on Dd. It is felt that the significance of the experiment is not, however, the validation of the Rorschach "signs"; it is, rather, the demonstration by statistical means that the "signs" hold within the "normal" range of adjustment, even when the criterion thereof is itself somewhat unreliable and lacking in validity.

Some M.M.P.I. correlates of certain color responses in the Group Rorschach test. Jerry H. Clark, *University of California at Santa Barbara*.

One hundred college students were administered the group Minnesota and the group Rorschach. An investigation was made to determine discriminating items on the MMPI in terms of the color responses. FC (2 or more), CF (2 or more), and the ratio of FC to CF + C responses.

A tentative analysis of the discriminating items indicates that a greater number of FC responses seem generally to be correlated with good adjustment, as there is a noticeable paucity of "psychotic" responses; however, apparently this higher FC score also is indicative of over-caution in social standards of caution in self-estimation, and of frequent indecision. Moreover, it appears that there is some constriction with regard to sexual matters. Some occupational differences are noted, but it is difficult to posit an explanatory rationale for such differences.

The higher CF score apparently is correlated with lack of regard for social conventions and a lack of consideration for the feelings of others, which at times approximates an active negativism; however, this does not reach the excited hypomanic level. A high degree of self-confidence apparently is correlated with a rather inadequate super-ego development. One might conjecture a certain degree of emotional immaturity. Certainly, there is a lack of reserve or constriction in social attitudes. This analysis further evaluates the relationship of the FC/CF + C ratio.

The effect of deliberate deception on Minnesota Multiphasic Personality Inventory profiles. Howard F. Hunt, *Stanford University*.

This is a study of the effects of deliberate malinering and deliberate concealment of personality abnormality on Minnesota Multiphasic Personality Inventory (MMPI) profiles. Detection of and

correction for such deception is important in the use of this test for "screening".

Seventy-four naval court martial prisoners served as a cross-validating sample for verifying results obtained for a population of 112 army enlisted men (ASTP). Results for additional samples are now being studied. All subjects took the group form of the MMPI under the following conditions: (1) honestly, (2) under instructions to conceal their personal "abnormalities" as much as possible, and (3) under instructions to malingering sufficiently severe abnormality to guarantee a medical discharge or disqualification for service. They were told to falsify in such a way as to avoid detection.

Both K-corrected and uncorrected profiles were studied. In general, malingering increased and concealment decreased scores on the nine personality scales. Malingering increased the F validity scale score while concealment had a similar effect upon the K score. Though the K correction did not markedly reduce the effects of either kind of lying, the F and K scales show promise in the detection of "faked" MMPI records. Various profile "signs" are discussed in connection with the "blind diagnosis" of such profiles.

A completion test as a masculinity-femininity scale.
Kate Franck, University of California.

Blanks each containing 36 incomplete drawings were completed by 300 college students and were scored according to formal and content criteria established in earlier investigations.

Highly significant sex differences were found (CR's of 13 or better). The scoring system was investigated for reliability between scorers (r 's were .84 or better).

Sex differences in use of space, lines, and content are discussed. Openness vs. closure; emphasis on internal elaboration vs. external expansion; "passive" vs. "active" content, are related to body structure, Freudian symbolism and cultural factors.

Friday Afternoon, June 18

Session IV-A: Attitudes

EGON BRUNSWIK, *Chairman*

Family patterns and ideology. *Else Frenkel-Brunswick, University of California.*

Systematic ratings of the attitude of 80 ethnically prejudiced and unprejudiced adults toward their parents (in the Berkeley Public Opinion Study).

in combination with reports by ethnically prejudiced and unprejudiced children studied at the Institute of Child Welfare of the University of California, augmented by direct interviews with their parents, point toward interrelations of ethnic prejudice and family organization. Discipline in the homes of the prejudiced seems significantly more often arbitrary and thus of a threatening quality; parents appear to be strict or at least distant rather than companionable as in the case of the unprejudiced. Parents of ethnocentric children are often socially marginal and tend toward social climbing. Since their conformist values are outside the children's scope, yet are rigorously enforced, only a superficial identification with the parents and society can be achieved. The general conventionality, stereotypical field-structuring, emotional and cognitive rigidity and intolerance of ambiguity found to be characteristic of the prejudiced are traced to this fearful submission to the discipline and the conventional standards of the parents.

Ethnocentrism in relation to some religious attitudes and practices. *R. Nevitt Sanford and Daniel J. Levinson, University of California and Western Reserve University.*

Scores on the California Ethnocentrism Scale were related to religious denomination, frequency of church attendance, parents' religion, relations between subject's and parents' religion, and categories of response to an open-ended question concerning the importance of religion and the church. The sample comprised 1,282 white, Christian, predominantly middle-class adults of various ages and occupations. Supplementary information was obtained from interviews with some subjects.

Subjects who professed to some religious affiliation or who attended church proved to be more prejudiced than those who professed to no religion or who did not attend church. Religious subjects varied widely in ethnocentrism score, but there were few differences among the various denominations. Ethnocentrism was more pronounced in subjects whose parents presented a unified religious front than in cases where the religious influence from the parents was inconsistent, partial or non-existent. Agreement between the subject and the mother in the matter of religion tended to be associated with ethnocentrism, disagreement with its opposite. In general, it appeared that gross, objective factors were less significant for prejudice than were certain

psychological trends reflected in the way a subject accepted or rejected religion and in the content of his religious ideology.

Attitudes toward sex education. *Marcille H. Harris and Lester F. Beck, University of Oregon, Eugene.*

The attitudes of 5,837 parents and 1,086 teachers towards sex education were determined (a) by written reactions to the film, *Human Growth*, and (b) by responses to a ten-item opinion scale. It was found that an unfavorable reaction to the film was consistently associated with a low score on the attitude scale, but a low score on the attitude scale did not necessarily mean opposition to the film. In other words, some persons with strong biases against sex education nevertheless found the film acceptable. This is interpreted to mean that the film presents the subject in a context that tends to avoid common prejudices against sex instruction. Group differences between the attitudes of parents and teachers were small but reliable, with the teachers being more favorably disposed towards sex education in the classroom. Religious preference had a direct bearing on attitudes toward sex education in general and the film in particular.

Attitude prediction in labor relations—a test of “understanding”. *Lester M. Libo, Stanford University.*

In an attempt to test the utility of a prediction approach to attitude research in labor relations, a “cross-questionnaire” study was conducted in which a management-oriented group and a union-oriented group were asked to complete two questionnaires—one “as you believe” and one “as you predict most of the members of the other group would respond.” The attitude questionnaire, consisting of 24 Likert-Type attitude questionnaire, consisting of 24 Likert-type items, was concerned with current political and economic issues affecting the field of labor relations. In order to test the limits of top leadership acceptance of psychological approach, a conflict area and a difficult industrial relations period were deliberately chosen for study. The two groups selected were 44 union leaders from the International Longshoremen's and Warehousemen's Union (CIO) and 33 West Coast industrial relations directors. Areas of agreement and disagreement, comparisons of predictions and their accuracy, experiences during the survey contacts, and an evaluation of the technique are presented.

Session IV-B: Developmental

M. A. WENGER, *Chairman*

A measurement of mother-child interaction. *Barbara M. Bishop, University of California.*

An experiment was designed to investigate factors in the interactive relationship between mother and child which affect behavior and social learning in the child. Subjects were 34 preschool children and their respective mothers. Each mother and child was observed for two half-hour sessions in a room containing play equipment for the child and magazines for the mother. Behavior was recorded every five seconds in terms of a notational system based on behavior categories describing (1) degree of contact, (2) degree of specificity of control, (3) degree of interference or facilitation, and (4) response to stimulation. Each child also was tested, under the same experimental conditions, with a young woman (neutral adult) who was socially unfamiliar to him.

Results were analyzed in terms of stimulus-response learning theory. Correlations computed between various types of maternal behavior and child behavior indicated significant relationships between certain stimulus-stimulus, response-response, and stimulus-response characteristics of their behavior. When the child's behavior with the neutral adult was compared to that evidenced with the mother, indications of both generalization and differentiation of behavior were found. An evaluation of this experimental technique as a workable method for further investigation of the mother-child relationship is presented.

Biosocial aspects of thumbsucking. *Marjorie P. Honzik, University of California.*

In the guidance study at the University of California Institute of Child Welfare, the behavior of two groups of normal children was studied over the age period 21 months to 18 years. In both groups a thumbsucking incidence of 28 per cent at 21 months was found. The evidence indicates that the onset of thumbsucking occurs during a period when the baby is frustrated in his need for either sucking, food, or for comfort during a period of distress caused by illness. Why, then, do more girl than boy babies persist in this habit? Forty per cent of the girls were sucking their thumbs at 21 months in contrast to 18 per cent of the boys. This sex difference is found in both groups.

Two explanations may be offered: parents may have a more permissive attitude toward thumb-sucking behavior in girls; or the girls may actually be obtaining greater satisfaction from this behavior than are the boys. Evidence supporting both these hypotheses has been noted in the relationship between early thumbsucking and ratings of androgyny and certain personality characteristics in late adolescence. We also have data to show that thumbsucking tends to persist in homes where there is marital harmony and good sex adjustment, and a close bond between the mother and child; but that this problem does not persist in the children of young, highly educated parents.

Attitude changes of high school youth over a nine-year period. *Harold E. Jones, University of California.*

Attitudes about social and economic conditions, education, marriage, and vocational opportunities were examined in a multiple choice test given to 659 seniors in an urban high school in May 1938, 1942 and 1947. The samples were approximately equal in size and closely matched with regard to occupational classes of the parents. Alternative answers for each item were so worded as to represent a range from an optimistic or high-morale extreme to a pessimistic or low-morale extreme.

Comparing 1938 with 1942, significant (chi square) differences were found for most items in the direction of improved morale; a reverse trend, of smaller degree, was found from 1942 to 1947. Results were closely similar for boys and girls and for high and low socio-economic groups. The striking changes in various aspects of morale, reaching a peak during the early part of the war, are interpreted in relation to changes in economic conditions, and also in possible relation to the structuring of values and goals during the war.

Adolescent friendships. *Mary Cover Jones, University of California.*

Correlational data, from the Adolescent Growth Study, on factors influencing friendships give results comparable to those reported by other investigators (Furfey, Jenkins, Seagoe, Williams). Friends are found to be similar in age, intelligence, neighborhood background, interests. When the data are examined with reference to age trends (11 to 18 years), it is found that degree of physical

maturity becomes an increasingly significant factor for both boys and girls. Social status also becomes more important in girls' friendships. Boys' friendships tend to last longer.

This method of study yields results more helpful in reflecting the circumstances under which friendships are formed than in revealing any but the most superficial psychological bases for congeniality. More enlightening are specific friendship histories including broken partnerships and realignments. Some of these are due to environmental factors (class sectioning on the basis of ability, social cliques, parental pressures). Some are due to more deepseated personal feelings. For example, "extension of the self" friendships may disintegrate when dissatisfaction with the self-image is acute.

Session IV-C: Interests and Counseling

LLOYD HUMPHREYS, *Chairman*

Instability of interest patterns as a function of shift in curricular orientation. *Earl Wilson, Montana State College, and Edward S. Bordin, Washington State College.*

Previous studies of the stability or permanence of measured vocational interests have taken a purely empirical approach and have not attempted to control any variables other than time. This study was based upon a theory of vocational interests presented by Bordin in which it was his conception of himself in terms of vocational stereotypes. One of the deductions from this assumption is that shifts in goal orientation will be accompanied by shifts in interest patterns. This study attempted to test this assumption by retesting 256 Washington State College freshmen at the close of the year. The Kuder Preference Record was used and has been administered initially at time of entrance. Statements of curricular orientation were obtained at the time of both testings. Test-retest correlations to two groups, expected to differ in stability on the basis of shift of curricular orientation, were found to differ as expected, although the results were not completely conclusive. Supplementary analyses are presented.

The ability to manipulate occupational stereotypes inherent in the Strong Vocational Interest Test. *Duane F. Kelso and Edward S. Bordin, Washington State College.*

The ability of naive subjects to manipulate volun-

tarily their measured vocational interest patterns is of both practical and theoretical significance. It is significant in estimating the usefulness of such tests in situations where the subject may be motivated to present a particular pattern. In presenting a theory of vocational interests embodying the individual's acceptance of occupational stereotypes as self-descriptive, there has been attached theoretical significance by Bordin. Voluntary manipulation of the stereotype not only gives evidence of the existence of a behavior potential consistent with the theory, but provides evidence of the stereotypic nature of the vocational interest scales.

Steinmetz, Carter and Bordin all have carried out preliminary investigations of this question. The first two of these studies used naive subjects and confined themselves to single scales. For the present study, 136 men, for whom there were existing clear-cut Strong Vocational Interest Test patterns, were recruited from beginning psychology classes at Washington State College. These men were delegated to simulate interest types different from their original areas. The results demonstrated that they were able to manipulate the patterns as readily as sophisticated subjects. Evidence is presented for variability in clarity of the occupational stereotypes inherent in the test. Analyses of some of the factors possibly related to ability to simulate vocational interest patterns are presented.

Veteran reaction to counseling. *Don D. Prosser, University of Southern California.*

The problem was to compare results of three surveys of veterans' reactions to vocational counseling at the University of Southern California Veterans Guidance Center. Items in the three surveys differed in a few respects, but there was sufficient overlapping to yield some basis for comparison.

Three techniques were used: (1) A questionnaire was given to 128 police trainees immediately following a testing and counseling period. These questionnaires were filled in during a classroom period without the veteran's signature. Items consisted of statements about the counseling process which subjects were to answer by checking either "agree", "?", or "disagree". (2) A questionnaire was mailed to veterans who were recent counselees. Each veteran was requested to encircle the word or words which would make a given statement true or false in his case. The questionnaire was anonymous.

(3) A telephone survey was made in which standardized questions were used but which permitted some flexibility in individual instances.

A general comparison of findings is in the following table:

Per cent of favorable responses to similar items in the three surveys

STATEMENT	MAIL N-253	CLASS- ROOM N-128	TELE- PHONE N-100
	%	%	%
Would recommend service to others	90	82	93
Satisfied with objective	83	73	82
Satisfied with testing	81	79	76
Satisfied with counseling	79	76	87

The conclusion was that a preponderance of evidence indicates that most veterans feel the counseling process has considerable value. Data from the three techniques showed no essential differences.

A technique for surveying the counseling and guidance needs of urban college students. *John H. Cornehlsen, San Francisco State College.*

This study, based on a stratified sampling of an urban student body of more than 3,000, was made to determine reactions of the students to existing personnel and counseling services, and to determine the nature and extent of students' needs. The method used for gathering data was for the most part by the customary questionnaire, or opinionnaire. The questionnaire was unique in having a section in which a student was asked to react to a series of 52 statements reflecting possible counseling needs and also to indicate the manner and extent to which these needs were met.

Results of the survey show that students tend to avoid the official counseling services of the college after initial contact, with 49% shifting their dependence to faculty members. Other data are equally damaging: only 50% felt that the counselors helped them with their problems; only 17% indicated that they were helped with suggestions in where to go if they needed help badly, and 82% indicated that their counselor had not tried to find out why they had done poor work. The study also indicated that at least 66% of the students had needs in each of the following areas (1) vocational guidance, (2) educational guidance, (3) study aids, (4) sex information, and (5) personal and social adjustments.

PROCEEDINGS OF THE TWENTIETH ANNUAL MEETING OF THE MIDWESTERN PSY- CHOLOGICAL ASSOCIATION

CLAUDE E. BUXTON, *Secretary-Treasurer*

Northwestern University

THE Midwestern Psychological Association held its twentieth annual meeting at the Hotel St. Paul, St. Paul, Minnesota, on May 7 and 8, 1948, under the sponsorship of the department of psychology of the University of Minnesota. Kenneth E. Clark and Miles A. Tinker were co-chairmen of the arrangements committee; they were assisted by the other members of the department and by Hamline University psychologists. The program was arranged by a committee consisting of Agnes A. Sharp, Harry F. Harlow, Marion E. Bunch and the secretary-treasurer. The registered number attending was 595.

The program consisted of 76 papers scheduled in regular sessions, plus 23 papers scheduled to precede four special symposia. The topics of these symposia, and the chairmen, were: industrial psychology (Orlo L. Crissey), anxiety and frustration (Norman Cameron), social psychology (Theodore Newcomb),

and projective techniques (Agnes A. Sharp). In addition, there were symposia on problems in certification and the organization of state societies (John G. Darley), training of nonclinical professional psychologists (Dael Wolfe), and training of clinical psychologists (Delton C. Beier).

The presidential address was delivered by Harry F. Harlow on Friday afternoon in the Coffman Memorial Union of the University of Minnesota. The title of his address was "The Formation of Learning Sets." Before the address, all those in attendance were guests of the university at a social hour.

At the annual business meeting on Friday evening, it was announced that B. F. Skinner was elected president for 1948-49, and William A. Hunt was elected a member of the Executive Council. The 1949 meeting is tentatively planned for the Chicago area. The following 92 persons were elected to membership:

Alexander, Lawrence T.
Ammons, Robert
Arms, Robert
Balloch, John C.
Bentley, Robert
Black, John Davies
Braun, Richard R.
Carter, Gerald
Carter, Joe T.
Charles, Don C.
Chernikoff, Rube
Cisney, Harland N.
Conover, Dona'd W.
Coppock, Harold
Davenport, Kenneth
David, Henry P.
Deese, James
Dewey, John E.
Dudek, Frank
Duncan, Carl P.
Egan, James P.
Fehrer, Elizabeth
Feil, Madeleine

Fite, Mary D.
Hake, Dorothy T.
Hall, Howard B.
Hall, John
Harris, Dale B.
Herman, David Theodore
Hobart, Helen W.
Jones, Omer R.
Jouras, Evangeline
Kannenberg, Katherine
Kass, Walter
Kerr, Willard A.
Klare, George R.
Klein, George S.
Kraemer, William S.
Lemmon, George James
Lichtenstein, Joseph M.
Lichtenstein, Parker Earl
Lippitt, Gordon L.
Long, Alma
MacNaughton, John F.
McCullough, Milton W.
McKinnon, Kathern

Meyer, Donald R.
Miller, James G.
Montalto, Fammie D.
Morgan, Sarah S.
Morris, Mina D.
Muench, George A.
Myers, Esther
Neff, William D.
Neidt, Charles
Nelson, Willard H.
Nikolaisen, Katherine
Obrist, Walter D.
Patton, Robert
Paulson, Harold G.
Pietz, Emil Theodore
Platt, Charles E.
Quinn, Harriet
Rokeach, Milton
Russell, David L.
Sargent, Helen
Satz, Martin A.
Seeman, William

Sheerer, Elizabeth
Shelley, E. L. V.
Shimberg, Benjamin
Shoben, Edward Joseph
Smith, Henry Peter
Spivack, Sarah
Springer, N. Norton
Stolurow, Lawrence M.

Taylor, James R.
Templin Mildred C.
Thomas, Garth J.
Thompson, William J.
Tiedeman, Herman R.
Twiford, Don D.
Ullman, Roy R.
Verplanck, William S.

Walker, Edward Lewis
Walters, Sister Annette
Wedell, Carl H.
Welck, Arthur
Wishner, Julius
Williams, Cornelia D.
Wolf, Theta H.
Wright, Wayne K.

PROGRAM

Session A. Learning I

Friday, May 7, 8:30 AM

DELOS D. WICKENS, *Chairman*

Design and construction of an inexpensive memory drum. *Thad J. Baker and G. Raymond Stone, University of Oklahoma.*

In the use of a memory drum it is sometimes desirable to change the length of list as well as the exposure time. This mechanism is an attempt to compromise the length and other variables with reasonable construction cost.

Group pre-training for serial rote learning by means of a moving picture technique. *David A. Grant, University of Wisconsin, and Dorothy E. Schneider, North Carolina Women's College.*

Performance of three movie pre-trained groups (96 Ss) was contrasted with the performance of 30 individually drum pre-trained Ss on three test-lists of nonsense syllables exposed by drum.

Group differences were significant on the first two test lists but not on the third, indicating that group pre-training is practicable.

Retention of verbal material as a function of degree of failure experienced in original learning. *Wallace A. Russell and I. E. Farber, State University of Iowa.*

Ss who nearly reached the criterion in a learning task performed better on immediate tests of retention than those who failed by a wide margin. These results were reversed when retention was tested one week later. An explanation is offered in terms of competitive inhibition and motivational characteristics of frustration.

Proactive inhibition as a function of time and degree of prior learning. *Benton J. Underwood, Northwestern University.*

Proactive inhibition in the retention of paired-associate lists is shown to increase as degree of prior learning increases, and to be uninfluenced by in-

creasing the time interval between learning and recall from 20 min. to 75 min.

Reminiscence and the warming-up effect in pursuit-rotor learning. *Arthur L. Irion, University of Illinois.*

In the Koerth pursuit-rotor situation, reminiscence was found to be an increasing, negatively accelerated function of length of interpolated rest interval. Furthermore, as amount of pre-rest practice increased, reminiscence at first increased and then decreased. The warming-up effect also varies as a function of these two conditions.

Stimulus discriminability related to the retroactive inhibition of a conditioned response. *James Deese, Indiana University.*

Retroactive inhibition appeared in counter-conditioning of two avoidance responses in dogs. Greater extinction of the original response occurred during interpolated conditioning with a CS different from the original. RI was greater under this condition. Results were related to Melton's extinction theory of RI.

The effects of reinforcement at high speed on the learning of telegraphic code. *Raymond C. Bice, University of Wisconsin.*

It was found that the use of immediate information as to correctness of response in typewriting material received telegraphically is of greater value when the learner begins training at high speeds than at low speeds. An auditory error signal was found to be inferior to a tactile signal.

Session B. Industrial Symposium

Friday, May 7, 8:30 AM

ORLO L. CRISSEY, *Chairman*

A departmental program in personnel methods. *Roger M. Bellows, Wayne University.*

Problems challenging the worker in personnel

methods include evaluation of training, bio-mechanics, differential placement, experimental designs in job evaluation, and personnel cost accounting. Areas other than industrial psychology are involved. A department of personnel methods has been established within the School of Business Administration, Wayne University, for developing personnel methods for industrial Detroit.

An analysis of employees' appraisal of management. *Charles S. Dewey, Reed Ramsey & Dewey, Chicago.*

The study is an analysis of employees' appraisal of management's policies in 25 companies by an audit containing discriminating questions on employee-management relations, employment, training, welfare, working conditions, and the Taft-Hartley Act. Responses indicate the basic problem of communication for better understanding between management and employees.

Readability of written communications in industrial situations. *James J. Jenkins, University of Minnesota.*

A study of the uses of the Flesch formula as a device for evaluating written communications in industry and as a standard for estimating the level at which these should be written for given groups. The study also demonstrated that effectiveness may be increased by applied psychological principles without increasing reading difficulty.

An experimental approach to the use of personal documents for analyzing employee attitudes. *Chester E. Evans, Wayne University.*

An employee letter-writing contest conducted by General Motors Corporation produced employee attitude data, as well as material useful for educating management groups. The primary objective was to encourage positive and constructive thinking by the employee about his job. This paper discusses the broader aspects of the research project.

Psychological research needs in business and industry. *A. C. Van Dusen and C. W. Martin, Northwestern University.*

A number of business and industrial areas which need psychological research were indicated through a detailed mail questionnaire from 120 executives of trade and commercial organizations, representing 57 trades and businesses in 63 different cities. Such organizations are undeveloped but potential sources for research and advancement of sound personnel practices.

Session C. General

Friday, May 7, 8:30 AM

R. M. ELLIOTT, *Chairman*

A selected list of references for beginning graduate students in psychology. *G. Raymond Stone, University of Oklahoma.*

Graduating majors frequently request a list of readings that they should cover in preparation for graduate competition. The task of choosing such a list is surprisingly difficult and a need is felt for exposing a provisional solution to a wide range of psychologists in order to incorporate their suggestions into the final product.

An experimental study of hearer language behavior. *David T. Herman, Louisiana State University.*

An investigation was made of verbal language perception. English and coined language stimulation were compared in a number of controlled situations. A general conclusion was that the RT method may be used in the investigation of various degrees of complexity of psychological language behaviors.

Musical preferences of college students. *Rita M. Weinberg, Psychiatric Institute, Municipal Court of Chicago.*

Musical preferences and the influence of musical training upon those preferences were studied by means of a musical discrimination test which 100 untrained and 64 musically trained students were asked to rate. Differential preferences are demonstrated statistically and an analysis by a musicologist shows the major determinants of the ratings.

A fundamental principle of personality. *Helen M. Wolfle, American Psychological Association.*

An individual reveals his own personality through any change he makes upon any type of material. This principle is implicit in many studies of personality. Stating it in general terms is advantageous, particularly for the invention of new tests or situations designed to measure personality differences.

A table of scientific problems, methods and findings. *Robert H. Seashore, Northwestern University.*

Parallel classifications of problems, methods and findings likely to be developed in any scientific study are presented for use in teaching (1) experimental methods, (2) planning an investigation, (3)

systematic psychology or its equivalent, and (4) a coordination of the methods and subject matter of all sciences.

Session D. Quantitative

Friday, May 7, 9:45 AM

HAROLD P. BECHTOLDT, *Chairman*

The factorial composition of test and criterion variables as determined for samples reflecting different selective conditions. *Frank J. Dudek, Northwestern University.*

The AAF November 1943 Classification Battery was factorially analyzed for three samples of pilot trainees representing different selective conditions. Sources of test variance were determined. Implications of results regarded: 1) "purity" of tests and consistency of measurement from sample to sample; 2) psychomotor test variance; 3) factorial composition of a criterion variable from sample to sample.

An empirical appraisal of the Cornell technique of scale analysis. *Phillip H. Kriedt and Kenneth E. Clark, University of Minnesota.*

This study examines empirically (1) the relationship of the Cornell technique of scale analysis to more widely used methods of item analysis, and (2) the relative effectiveness of each method in developing a unidimensional scale, i.e., a scale whose items are highly intercorrelated. The limitations of each method under study are discussed.

Methods of splitting vs. samples as sources of instability in test-reliability coefficients. *Edward L. Clark, Northwestern University.*

Four methods of splitting tests applied to four different tests and to four groups of applicants were an unimportant source of variance in test-reliability coefficients. Mean squares due to methods were much less than those due to samples and resembled in magnitude those due to residual error.

Naming psychological factors. *D. A. Worcester, University of Nebraska.*

Psychologists competent in the field of factor analysis were asked (1) to give names to factors revealed by an analysis of responses to Strong's Vocational Interest Questionnaire for Women, and (2) on a test of humor to match factors with the jokes

with which they were found to be loaded. Disagreement in each instance was very large.

An efficient punch-card method of computing ΣX , ΣX^2 , and ΣXY for obtaining intercorrelations. *Arthur J. Riopelle, University of Wisconsin, and Max E. Ellis, Oscar Mayer and Co., Madison, Wisconsin.*

A method is described for obtaining sums of scores, squared scores and cross products on IBM apparatus. Progressive digitizing, master square cards, and automatic multiplying punching are not required. Various internal checks on the accuracy of the records are indicated. The method is applicable to distributions containing intervals of zero frequencies.

Session E. Anxiety and Frustration Symposium

Friday, May 7, 8:30 AM

NORMAN CAMERON, *Chairman*

An experimental investigation of an anxiety gradient in stuttering behavior. *Albert E. Goss, State University of Iowa.*

On the hypothesis that frequency of stuttering is an increasing function of anxiety in stutterers, two groups of stutterers were required to repeat words after varying intervals of time following their presentation. Results indicated that frequency of stuttering is directly related to duration of word-cue within a range of one to ten seconds.

The Rosenzweig picture-frustration study as a measure of frustration response. *Joseph C. Franklin, Purdue University, and Josef Brozek, University of Minnesota.*

Identical results were obtained from 32 Ss under contrasting conditions of six months of semi-starvation and substantial recovery—elevated extra punitive and obstacle-dominance percentages. Performance was unrelated to level of re-feeding or degree of rehabilitation. Incongruity of results requires critical examination of the standardization, projective assumptions, and validity of the study.

Changes in performance on the Rosenzweig picture-frustration test following experimentally induced frustration. *Robert L. French and Betty J. Pickett, Northwestern University.*

The P-F test was given to 80 students three weeks before and immediately after the return of a course examination in which some grades were falsely re-

ported. Raising the grades of poor students produced some significant changes, but lowering those of good students did not. Good students differed significantly from poor students in certain respects regardless of the grade reported.

The acquisition of a new response on the basis of conditioned anxiety reduction. *Alfred Jacobs and Judson S. Brown, State University of Iowa.*

In an animal experiment, learning based on acquired anxiety-drive reduction was demonstrated. The habit was not reinforced by pain reduction during acquisition, and showed no extinction with some animals in 60 trials. A non-anxious control group did not learn the new habit but exhibited cyclic fluctuations in exploratory behavior.

Factors in the extinction of a fixated response. *I. E. Farber, State University of Iowa.*

The extinction of a response fixated by rats in a shock situation by means of feeding at the locus of shock may be attributed to the failure of anxiety reinforcement or to the competitive inhibition of anxiety by feeding responses. An experimental test indicates the greater importance of the latter factor.

Session A. Sensory Processes

Friday, May 7, 1:00 PM

FORREST A. KINGSBURY, *Chairman*

An experimental test of Hecht's quantum theory of the probability of seeing function. *W. S. Verplanck, Indiana University.*

A critical experiment on certain of the predictions of Hecht's quantum theory of the visual threshold has been performed. Systematic deviations from the predictions of the theory have been found. These indicate the necessity for an analysis of the threshold function in terms of its psychological parameters.

The effect of a thermal masking noise on the pitch of a pure tone. *Earl Schubert and John Corso, State University of Iowa.*

Matching the pitch of a variable pure tone in one ear with that of an equally loud standard tone in the other ear, the standard tone being masked by a thermal noise, demonstrates that the apparent pitch of a pure tone is raised in the presence of a thermal masking noise.

Generalization of a reference scale for judging pitch. *Donald M. Johnson, University of Minnesota, Duluth.*

Whether an *S* judges "high" or "low" depends on the range of a stimuli previously experienced. If *S*'s experience with a series of stimuli can be quantitatively described, the boundary between "high" and "low" on *S*'s scale can be quantitatively predicted. Experiments with several series of pitches, comparing predicted and obtained values, add support to this theory.

Session B. Action

Friday, May 7, 2:00 PM

WALTER F. GREYER, *Chairman*

A versatile classroom experiment on set. *Robert W. Kleemeier, Northwestern University.*

A modification of the Griffiths Letter Series Test is used as an experiment to demonstrate influences of set. Identical responses made under positive and negative sets show marked retardation of speed under negative set. Experiment takes little time to perform. It can also be used to demonstrate experimental control.

Discrete movements in the horizontal plane as a function of their length and direction. *Judson S. Brown, State University of Iowa, and Arthur T. Slater-Hammel, Indiana University.*

A study of discrete arm-hand movements in the horizontal plane indicates that (a) reaction-time is independent of the length or direction of movement, (b) movement-duration and speed increase with movement-length, and (c) the function relating speed of movement to movement-length is apparently parabolic in form.

The effect of angle upon precision of linear pursuit movements. *R. E. Corrigan and W. J. Brogden, University of Wisconsin.*

Three experiments were completed in which precision of linear, constant velocity pursuit movements were measured for the right arm at different angles from the body. The primary results may be integrated in an hypothesis that precision of movement is a two-cycle sinusoidal function of arithmetical progression of angular magnitude.

Motor responses to stimuli just above and just below threshold. *R. C. Davis, Indiana University.*

The effect of threshold and sub-threshold auditory stimuli upon the electromyogram can be studied by statistical methods. Such an effect seems to exist

for both because there is a greater than chance proportion of cases where the e.m.g. during the critical periods is greater than during reference periods.

Session C. Learning and Motivation

Friday, May 7, 1:00 PM

B. J. UNDERWOOD, *Chairman*

Temporal gradients in response strength under two degrees of motivation. *Gerald Rosenbaum, State University of Iowa.*

Rats were rewarded for making a bar-pressing response every 60 seconds. Test trials conducted by introducing the bar at shorter and longer intervals disclosed a gradient of response latencies for the shorter intervals. Under reduced motivation, response latencies increased at all test intervals with the gradient becoming steeper.

A method for the control and manipulation of the caloric hunger drive in rats. *Lawrence M. Stolurrow, University of Pittsburgh.*

To control and manipulate the hunger drive more rigorously than by starving animals for a particular period, two groups were fed once in 24 hours: one was reduced to 80%, the other to 70% of their respective mean ad libitum weights. The rate of barrier destruction of the two comparable populations was compared and a significant relationship was found between the rate of destruction and the extent of weight reduction.

Motivation and learning in a free-choice situation. *R. H. Waters, University of Arkansas.*

As another test of the role of motivation in learning, 25 rats were given 60 training trials equally distributed between appropriate and inappropriate incentives in a non-maze situation. Test runs after reversal of motivation present during training failed to give evidence of learning.

Dissociation of a secondary reinforcer from the primary drive. *William K. Estes, Indiana University.*

An auditory stimulus was repeatedly presented to thirsty rats in temporal contiguity with water, and acquired the usual properties of a secondary reinforcing cue. This stimulus was then found to be effective in reinforcing a new conditioned response when the animals had been satiated on water but deprived of food.

Concurrent operants. *B. F. Skinner, Indiana University.*

Two operants using separate musculatures can be studied at the same time in a single organism. There is little or no interference between processes taking place simultaneously. The usual choice situation involves two operants with considerable topographical overlap. Quantitative measures of changing "preferences" seem to require analysis in terms of a small unit of response.

Session D. Physiological

Friday, May 7, 1:00 PM

W. D. NEFF, *Chairman*

Changes in metabolic rate during audiogenic seizure in the rat. *Jerome R. Hofeld, Northwestern University.*

Preliminary results suggest that metabolic rate in an adult male white rat, as measured by a modified Haldane apparatus for continuously weighing exhaled CO₂, rises sharply during sound-induced seizure, falls sharply during passive state, and returns to normal after seizure.

Reversibility of sound-induced convulsions associated with a pyridoxin deficiency. *Francis J. Pilgrim, University of Pittsburgh, and R. A. Patton, Western State Psychiatric Institute and Clinic.*

Several etiological factors predispose rats to audiogenic seizures, including deficiencies of pyridoxin or magnesium. Because recent work has implicated middle ear infection as a complicating factor in some of the studies, it was felt desirable to differentiate the factors involved.

This study shows that sensitivity to sound-induced convulsions in pyridoxin-deficient rats is reversed by pyridoxin therapy when otitis media is not a complicating factor.

The relationships of certain instrumental variables to the occurrence of spinal lesions in rats subjected to controlled electroshock convulsions. *Roger W. Russell, John C. Townsend, Harry W. Braun and Robert A. Patton, University of Pittsburgh and Western State Psychiatric Institute and Clinic.*

The intensity and duration of the electroshock impulse were varied systematically while inducing convulsions in 100 albino rats. Forty-two per cent of the Ss developed paralyses as a result of compression fractures and anterior dislocations at the ninth and

tenth thoracic vertebrae. Substantial relationships were found between the occurrence of the paralysis and the intensity and duration of the electroshock impulse.

Effects of lobotomy on feeding inhibition and "neurosis" in dogs. *P. E. Lichtenstein, Indiana University.*

In line with recent work on psychosurgery and neurosis an attempt was made to relate these factors in dogs by establishing a conflict—or shock-induced inhibition of eating—productive of "neurotic" symptoms. Bilateral prefrontal lobotomy resulted in complete removal of the feeding inhibition and modification of previous "neurotic" behavior patterns.

The psychological effects of frontal lobotomy performed to alleviate pain. *Wayne Dennis, V. D. Koskoff, Erma T. Wheeler, and A. David Lazovik, University of Pittsburgh.*

In ten cases submitted to frontal lobotomy to alleviate pain arising from cancer and other causes the relief of suffering has been marked. A psychometric battery given pre-operatively and post-operatively reveals a relatively generalized intellectual impairment whose permanence is still undetermined.

The investigation, aided by the USPHS, is continuing.

Psychophysiological effects of prefrontal lobotomy. *Charles E. Henry and Chester W. Darrow, Institute for Juvenile Research, and Louis D. Boshes, University of Illinois.*

Decreased low voltage fast activity and increase of alpha rhythm, particularly in frontal and motor areas appear, following lobotomy, associated with indications of clinical improvement. Reduction by lobotomy of sodium amytal-induced frontal fast rhythmic activity offers a possible criterion of effectiveness of surgery in sectioning thalamo-frontal pathways.

The performance of topectomized patients on the University of Wisconsin Card Sorting Test. *Está A. Berg and David A. Grant, University of Wisconsin.*

The performance of topectomized patients from the Columbia-Greystone Project was studied on a Weigl-type sorting test. Operated patients solved abstraction problems and gave significant correlations between sorting test scores and Wechsler-

Bellevue, Weigl color-form sorting test, and the Rubin-Figures scores.

Session E. Personality

Friday, May 7, 1:00 PM

GEORGE A. KELLY, *Chairman*

Personality correlates of socio-economic status. *Harrison G. Gough, University of Minnesota.*

Analysis of the Minnesota Multiphasic Personality Inventory records of high school seniors differentiated on socio-economic status, yielded a group of items which sharply discriminated the two samples, and gave reasonably high correlations with objective indexes of status. Additional study suggests characteristic configuration of verbal behavior related to socio-economic status.

Truancy and classroom disorder as symptoms of personality problems. *Frances A. Mullen, Bureau of Child Study, Chicago.*

A group of 886 adolescent and pre-adolescent children with histories of truancy but not of serious classroom disorder are compared with 749 children described as discipline problems in the classroom but without known truancy, on various educational, social, and physical factors. Significant differences in incidence of these factors are demonstrated.

Consistency of the factorial structure of personality ratings from different sources. *Donald W. Fiske, University of Michigan.*

A group of 128 men were rated by experienced psychologists, by associates, and by themselves, using the same 22 item rating scale. These separate factor analyses yielded some factors unique to ratings from a particular source and some factors common to the ratings from more than one source.

A study of personality ratings in a representative sample of ten year olds. *Dale B. Harris and Katherine Nikolaisen, University of Minnesota.*

In connection with a larger research project, a trait list containing 110 items was filled out by an examiner and two teachers for each of 100 children randomly selected from among all 10-year olds in a city school system. Analysis yields "normative" data, sex differences, degree of agreement between raters, and a description of the types of distributions obtained.

The effect of failure and success as a function of ascendancy and submission. *Janet A. Taylor and I. E. Farber, State University of Iowa.*

The hypothesis was tested that failure leads to differential effects in submissive and ascendant individuals. Groups of ascendant and submissive children were given a series of formboards on which they were allowed to fail or succeed. The performance of the submissive-failure group was significantly inferior and more variable than that of the ascendant-failure group.

Changes in level of palmar skin resistance during adolescence. *Walter D. Obrist, Northwestern University.*

Galvanic skin resistance falls during adolescence to half the prepubescent level, sex differences appearing after age 16. Changes in resistance level are related to age at menarche and to skeletal age. Comparisons were made between early and late maturing groups classified accordingly from data of the California Adolescent Growth Study.

Session A. Learning II

Saturday, May 8, 8:30 AM

MARION E. BUNCH, *Chairman*

Conditioned generalization of the GSR to tones. *Richard A. Littman, Ohio State University.*

Part of an experiment by Hovland was repeated to verify his findings. His procedures were closely followed, being supplemented by instrumental improvements. The phenomenon of generalization was verified. However, the specific function previously obtained was not confirmed, results indicating a straight-line function, possibly of zero slope.

Sensitization of the Beta-Response of the eyelid to light as a function of the wave length of the stimulus. *John P. Hornseth, David A. Grant, and Harold W. Hake, University of Wisconsin.*

Significant increases in both frequency and magnitude of the Beta-Response were observed to stimuli of shorter wave lengths. These findings were in contrast to the data on longer wave lengths of light. It is suggested that rod adaptation may be the mechanism involved in the sensitization of the Beta-Response.

Generalization and discrimination in the conditioned eyelid response to sound stimuli. *Harold W. Hake,*

David A. Grant and John P. Hornseth, University of Wisconsin.

Generalization and discrimination gradients obtained indicated greater average magnitude of response to stimuli very similar to the original conditioned stimulus than to the conditioned stimulus itself. This phenomenon appeared to be a function of the range covered by the test stimuli and the effect of introducing novel test stimuli.

Proportional reinforcement and the extinction of the conditioned GSR. *Donald R. Meyer, David A. Grant and Harold W. Hake, University of Wisconsin.*

Resistance to extinction is a function of number of reinforced trials, but apparently not of the exact proportion of reinforcements or number of unreinforced trials. The random-reinforcement phenomenon apparently does not depend greatly on total number of unreinforced trials or exact proportion of reinforcement in classical conditioning.

Transfer of response in young children on the intermediate size problem. *Margaret R. Kuenne, University of Wisconsin.*

Twenty-two preschool children trained to select the middle-sized of three stimuli, were tested on sets of stimuli in which the previously correct stimulus was the smallest or largest, and a previously incorrect stimulus the middle-sized. Sixty per cent of the responses were to the absolute stimulus and 30 per cent to the relative.

A technique for group learning studies. *Philip H. DuBois and Marion E. Bunch, Washington University.*

A technique for group learning studies is presented which has the advantage of permitting analysis of results by the IBM test scoring machine, both for obtaining scores for trials and for assessing difficulties of component material.

Preliminary results for perceptual learning are indicated.

The effect of different instructions upon the occurrence of sensory pre-conditioning. *Rube Chernikoff and W. J. Brogden, University of Wisconsin.*

Combinations of tone and light were given untrained subjects of experimental groups. Then instructions to respond to (1) light, (2) light but not tone, and (3) light and do what seems natural to tone

were given subjects of experimental and control groups. Response to tone was significantly greater than controls only with instructions (1).

Session B. Social Psychology Symposium

Saturday, May 8, 8:30 AM

THEODORE NEWCOMB, *Chairman*

Scaling and factorial design in opinion poll analysis. *N. L. Gage, Purdue University.*

A method for quantifying "determinants" of opinion is formulated and demonstrated. The method requires, first, the development of a quantitatively scoreable, uni-dimensional scale of attitude or opinion; and secondly, the analysis of variance in these scores by the method of factorial design.

The psychological and anthropological approach to topical-autobiographies of displaced persons. *David P. Boder, Illinois Institute of Technology.*

An ideographic analysis of several samples of verbatim recorded narratives of displaced persons reveals that the material not only yields to established procedures of analysis of personal documents but also suggests new methods of approach especially in the evaluation of the process of personal deculturation.

Senatorial "progressivism": two uni-dimensional scales and their correlates. *N. L. Gage and Ben Shimberg, Purdue University.*

Scale analyses of senators' voting records on selected bills in two sessions of Congress resulted in uni-dimensional scales of "progressivism." Correlation and analyses of variance were applied to study the scores' session-to-session reliability, relationship to age, region, party, educational level, majority-minority party status.

The validity of the Nebraska "Young Citizens" contest. *Harold A. Delp, University of Nebraska.*

A study to determine the adequacy of selecting outstanding high school citizens by contest methods. Demonstrates strength and weaknesses in former method, offering suggestions for improvement and needed changes to increase the value of citizenship training to the school and community. Also points to techniques for better investigation of "character building" programs.

Prejudice and rigidity in children. *Milton Rokeach, Michigan State.*

It was hypothesized that children high in prejudice are (1) more rigid and (2) more concrete in solving arithmetic problems than children low in prejudice. Test measuring prejudice, rigidity and concrete thinking were given. The results found support these hypotheses and, further, support results found in earlier studies with adults.

Hypotheses for investigating the relationship of leadership to group syntality. *Raymond B. Cattell, University of Illinois.*

Definitions are given for syntality and leadership, the latter being dependent upon the former. Designs by which certain previously published theorems on the dynamics of syntality may be experimentally tested are sketched. Methods of checking certain hypotheses relating leadership structure and personality to syntality, regarding a group as a problem-solving device, are discussed.

Session C. Projective Techniques Symposium

Saturday, May 8, 8:30 AM

AGNES A. SHARP, *Chairman*

A preliminary study on form evaluation in the Rorschach. *Roy Brener, Hines VA Hospital.*

This study is a preliminary to a new procedure for establishing Form value of Rorschach responses. Value of a response, based on a 5-point scale, is determined by combined ratings of judges. Data are presented on the relationship between acuity of perception and popular response, and on effects of familiarity with the test on ratings assigned to a given response.

The Rorschach performance of 10-year-old children—a normative study. *Katherine Nikolaisen, University of Minnesota.*

A description of current research in which Rorschachs were administered to 100 ten-year-olds randomly selected within economic levels in a city school population. Analysis yields normative data and notes on validity of various Rorschach categories through use of teachers' ratings and Rogers' test of personality.

The Rorschach test in an analysis of personality changes in general paresis. *Seymour G. Klebanoff, Northwestern University.*

Individual Rorschach tests were administered to a group of 26 patients with general paresis and to

a second group of 26 normal control Ss. On the basis of differences between the two groups, an analysis of personality structure is presented for the brain-damaged group in terms of levels of psychological deficit.

A comparison of results obtained from the Thematic Apperception Test under two conditions of administration. *Katherine M. Kannenberg, University of Wisconsin.*

Six hundred TAT stories obtained under usual and reversed conditions of administration were scored for number and kind of needs expressed. Contrary to the usual assumptions, significant differences between the two series of pictures occurred in only a few variables—needs for friends and social approval, and a general state of apprehension.

The common responses of normal children to ten pictures of the Thematic Apperception Test series. *Beverly F. Cox and Helen D. Sargent, Northwestern University.*

Responses of 90 normal children to ten TAT pictures showed significant picture differences but no sex or grade differences. Responses frequently considered as clinically significant were found to be common for normal children. Clinical analyses should be made with reference to normative data and the stimulus value of each picture.

Frequency of themes and identifications of characters in TAT stories of schizophrenic patients and non-hospitalized college students. *Leonard D. Eron, University of Wisconsin.*

One thousand TAT stories produced by 25 schizophrenics and 25 college students comparable as to sex, age, education, IQ, and veteran status were analyzed and classified according to theme and identification of characters. Frequency tables are presented and comparisons calculated both between groups and among individual stimulus cards.

Session D. Guidance

Saturday, May 8, 8:30 AM

WILLIAM M. GILBERT, *Chairman*

Some measured personality traits of collegiate under-achievers. *William A. Owens and Wilma C. Johnson, Iowa State College.*

The Minnesota Multiphasic Personality Inventory, The Minnesota Personality Scale, and a Per-

sonal Check List were administered to groups of overachievers, "normal" achievers, and under-achievers in their first year of engineering at Iowa State College. Thirty-eight items, answered differentially by them, provide an admittedly fragmentary picture of the typical underachievers of the study.

The object-aperture test: a measure involving visualization in three dimensions. *Philip H. DuBois and Goldine Gleser, Washington University.*

Each item consists of a representation of a three-dimensional object and five two-dimensional openings or apertures. S decides through which of the openings the three-dimensional object could be passed.

The test has good validity for predicting success in engineering drawing. Relationships with other measures are presented.

An investigation of a counselor attitude questionnaire. *William A. McClelland and H. Wallace Sinaiko, University of Minnesota.*

An empirical scoring key for 40 of the 74 items of Chase's "How I Counsel" questionnaire was obtained from the responses of 13 carefully selected Minnesota-trained counselors (teachers and practicing counselors). Some of the correlates of this scale were examined in counseling groups of varying degrees of training and experience.

Effects of industrious and indolent work habits on grade prediction in college mathematics. *William C. Krathwohl, Illinois Institute of Technology.*

An index for measuring the industry or indolence of a student is set up by comparing his mathematical brightness with his mathematical achievement in high school. It is found that for a given degree of mathematical brightness, positive correlation coefficients exist between college algebra grades and indexes of industriousness.

The abilities and interest of pharmacy freshmen. *H. H. Remmers and N. L. Gage, Purdue University.*

Results of a freshman testing program in 54 colleges of pharmacy are reported in terms of various group differences. The median validity of the battery against first semester marks was .65. Intra-university differences among school and curricular groups are also reported.

A study of withdrawal of veterans at the University of Michigan. *Robert S. Waldrop, University of Michigan.*

Results of interviews given all veterans withdrawing during the spring semester 1947 are analyzed. Health, immediate employment and poor scholarship are most frequent causes while financial reasons are of less importance. Future plans, area of concentration, marital status, number of dependents as well as percent of disability in relation to withdrawals are discussed.

Session E. Business and Industrial

Saturday, May 8, 10:15 AM

C. H. LAWSHE, *Chairman*

A study of the validity of Cardall's Test of Practical Judgment. *Dorothy H. Carrington, Illinois Institute of Technology.*

The correlations between Cardall's Practical Judgment Test and tests of intelligence and personality were computed.

It is concluded that the Practical Judgment Test measures to some extent a maturity factor which includes social maturity and ability to make independent judgments, but that this factor is not independent of intelligence.

A scientific approach to the study of magazine readership. *Herman F. Brandt, Drake University.*

By means of the one-way-mirror and electric counter technique, magazine readership time and habits were recorded for 7800 Ss reading 104 issues of two periodicals over a period of two years. Readership time of entire magazine, respective portions and different types of subject matter as well as readership habits are reported in the investigation.

The interest and personality patterns of fire protection engineers. *George S. Speer, Illinois Institute of Technology.*

From scores on the "Preference Record" and the "Personnel Inventory I" it is concluded that personality and interest differences at graduation influence decisions of graduates to enter sales, engineering, or administrative work; some of these differences become greater the longer individuals remain in their respective occupations.

The galvanic method of pretesting advertising. *A. R. Gilliland and Gordon Eckstrand, Northwestern University.*

In three different series of ads close agreement was found between the amount of galvanic arousal and the sales effectiveness of the ads. These results confirm earlier preliminary tests.

Selecting salesmen with subtle-obvious keys for the Minnesota Multiphasic Personality Inventory. *Daniel N. Wiener, Veterans Administration, Minneapolis.*

Subtle and obvious keys for the MMPI, previously described, were applied to successful and unsuccessful salesmen groups. Results suggest elevation on subtle scores is desirable, elevation on obvious scores undesirable, with total scale scores in between. Depending on cutoff point used, 36% to 88% of unsuccessful were eliminated, 0% to 34% of successful.

Session A. Clinical Psychology Symposium

Saturday, May 8, 1:00 PM

DELTON C. BEIER, *Chairman*

Attendant selection and employee morale in hospitals for the mentally ill. *Phyllis Wittman, Illinois Department of Public Welfare.*

This paper describes employee selection and morale building personnel practices developed at the Elgin State Hospital. Tests given the employee applicant, including two vocational tests developed at Elgin for attendants, are discussed. The orientation course and other personnel measures are described.

The use of behavior rating scales in the analysis of clinical case records. *Margaret Ray, Eugenia S. Cameron, Charlotte Gilbert, Dane County Community Mental Health Center, Madison, Wisconsin.*

The Fels Rating Scales on Parent and Child Behavior were revised and applied to case studies of 29 children between the ages of 4-7 and 5-7. The scales were tested for reliability according to the degree of agreement of ratings among six judges and judges' rated certainty on each variable.

Some factors in our status as clinical psychologists. *R. C. Topper and M. E. Topper, Emory University.*

The authors contend that a background in psychology should warrant the use of psychotherapy by clinical psychologists and that their general acceptance as therapists depends upon their using a relativistic, field-type theory. The inter-behavioral approach is suggested.

Characteristics of alcoholics. *Claude Edward Thompson and Robert Arms, University of Omaha.*

The mental ability test and a series of personality tests were administered individually to 50 members of Alcoholics Anonymous. The alcoholics are above average in mental ability, and in personality deviate significantly as follows: Serious versus Impulsive; Irritable versus Tranquil; Depressive versus Gay-hearted; Hard-boiled versus Sympathetic; Subjective versus Objective; Lacking in emotional integration versus Self-mastery, and are strongly Rhythmic.

Personal reference of the deaf in explanations of objective phenomena. *Mildred C. Templin, University of Minnesota.*

The written explanations which matched deaf, hard of hearing, and hearing subjects gave of physical phenomena were analyzed for personal reference. The deaf were more often oriented toward themselves and the immediate situation than the other groups.

The symbolic and logical aspects of schizophrenic thought. *Lester M. Geller, Michigan State College.*

Evidence is cited for the premise that schizophrenic symbolizations do not represent regression to the childhood level nor senile deterioration. Following a brief analysis of the logic and thought content of schizophrenic patients, attempts are made to discover in this material an underlying rationale and to relate this rationale to the thought patterns of the preschizophrenic.

Daydreams: a study of seven types. *William Seeman, University of Minnesota.*

Responses of 209 Ss indicating the incidence of and reaction to seven types of daydreams were analyzed for the purpose of testing several hypotheses. The most popular type was the sexual daydream and two types to which greatest emotional reactions were reported were sexual and martyr daydreams.

Qualities judged useful for the objective scoring of adolescent interpretations of illustrations of emotionally toned situations. *Alma Long, Purdue University.*

Comments by 550 adolescents, about illustrations based on problems brought to teachers for counsel, ranked by 12 judges, provide a wide range of categories for scoring. Relationships between frequencies of representative quality responses and other

social measures, age and sex appear to be useful and significant for guidance and teaching purposes.

Session B. Tests and Testing

Saturday, May 8, 1:00 PM

STARKE R. HATHAWAY, *Chairman*

Developmental profile to facilitate appraisal of test performance. *T. W. Richards, Northwestern University.*

Description of a series of charts for several individual mental tests which facilitate the appraisal of "scatter" of performance.

Clinical intuition vs. objective scoring technique. *Harold Klehr, Northwestern University.*

The ability of a group of trained clinical psychologists to make a diagnostic evaluation based upon the quality of test responses alone is compared with the results of using a purely numerical scatter measure. The "clinical intuition" of the clinicians is shown to be better than the diagnostic possibilities of a merely numerical scatter measure.

The application of brief tests of intelligence in the psychiatric clinic. *John R. Knott and Richard G. Cannicott, Iowa Psychopathic Hospital.*

A short battery of tests drawn from the Kent scales was applied as a preliminary screening device in a psychiatric clinic. Correlation with the level of intelligence as defined by the Wechsler-Bellevue Scale was +.86. Qualitative impressions gained by scatter and item analysis seem to be of diagnostic value.

A further standardization and validation of the CVS abbreviated individual intelligence scale. *Meyer Williams, William A. Hunt and Elizabeth G. French, Northwestern University.*

Further standardization and validation of the CVS abbreviated individual intelligence scale indicates that it performs satisfactorily as both a measure of intelligence and a diagnostic indicator. Norms and standard scores based on over 1000 Ss are presented for its use.

Comprehension, similarities, and digit symbols of the Wechsler Bellevue Scale used in a court clinic. *Margaret S. Bay and Mary D. Berks, Psychiatric Institute, Municipal Court of Chicago.*

The subtest comprehension, similarities, and digit symbols were chosen for a short form of the Wechsler

(Continued on page 372)

PROCEEDINGS OF THE NINETEENTH ANNUAL MEETING OF THE EASTERN PSYCHO- LOGICAL ASSOCIATION

HAROLD G. SEASHORE, *Secretary*

The Psychological Corporation

THE Eastern Psychological Association met for the nineteenth annual meeting at Temple University, Philadelphia, Pennsylvania, on Friday and Saturday, April 16 and 17, 1948. A total of 933 persons were registered for the meeting, which compares with 591 at the Atlantic City meeting a year ago and 876 at the Fordham meeting two years ago. Of those attending, 355 were members and 578 were guests. The large increase in the number of guests is accounted for to a considerable extent by the increased number of graduate students in the area of the Eastern Psychological Association.

The program consisted of thirteen sectional meetings embracing a total of eighty-seven papers. These are listed by section and title later in this article. Two round tables were organized on important research topics. One round table was a joint session with the Rorschach Institute which was also meeting at Temple.

Returning to an old custom, the Association had a banquet on Friday evening at which Anne Anastasi was toastmaster and Provost Millard G. Gladfelter brought the greetings of the University. Dr. Joseph McVicker Hunt gave his presidential address at the banquet.

PRESIDENTIAL ADDRESS

In his address, entitled *A Social Agency as a Setting for Research—The Institute of Welfare Research*, Dr. Hunt pointed out that the Community Service Society (CSS) of New York, which is this year marking its one-hundredth anniversary, has three areas of function or purpose: service, professional training, and research. The service program includes family service, educational nursing, nutrition, dental and medical clinics, homes for the aged, vacation services including a number of summer camps and general services concerned with legislation and public administration. Professional training for welfare work is the function of the New York School of Social

Work which is both a department of CSS and a graduate school of Columbia University.

The Institute of Welfare Research, organized in 1939 to increase the agency's emphasis on research, has the two-fold function of making the scientific method serve as an aid in planning and improving the multi-service program of CSS, and to utilize those unique opportunities afforded by this service program for fundamental contributions to our knowledge of human behavior and human relations.

The Institute's research program involves collaboration with the various service departments. With Family Service, the Institute is attempting to measure the results of social casework studying the intake process and working toward a more useful system of classification, and studying the recording and interviewing processes in family casework. The attempts to measure the results of casework have resulted in two instruments with known reliability, the Distress-Relief Quotient devised by Dollard and Mowrer and the scale for judging "movement" in clients, which are now being validated by means of a follow-up study. With the Department of Educational Nursing, the Institute is devising a system of classification of the nursing services for purposes of statistical report. With the Dental Clinics, it is working on a study of the effects of fluorides topically applied in a clinic setting on the rate of formation of caries in young patients. It is helping to formulate criteria by which children may be properly selected for summer camp. For the summer of 1948, it has arranged to collaborate with Dr. Ronald Lippitt and Dr. Fritz Redl in a study of the factors controlling emotional contagion in the small groups in one of the summer camps.

The process of doing research in a social agency is a complex social process. It is necessarily social, not merely at the point of presenting and interpreting results, but from the initial formulation of the problem to final interpretation of results. Collaboration

between practitioners and research personnel is required if the data are to be obtained from the practice process and if the results of research are to affect practice. Furthermore, such collaboration results in mutual education of practitioner and research personnel which is cumulative in effects.

Although most of the Institute's present program is designed to contribute almost immediately to practice, the program of CSS affords opportunities for fundamental research. The summer camps provide an excellent laboratory for research on the social psychology of group dynamics. Studies of the interviewing process should contribute to our basic understanding of both interviewing and psychotherapy. It may be possible to utilize the caseworkers' unique opportunity to observe family behavior to test hypotheses about personality development. Moreover, in the area between theory and practice, the Institute is on hand to help design the measurement aspects of the experimental programs to demonstrate the prevention of such phenomena as delinquency and neurosis now being considered by CSS and other social agencies.

ANNUAL BUSINESS MEETING

1. The proceedings of the 1947 meeting, as printed in the *AMERICAN PSYCHOLOGIST*, October, 1947, were accepted.

2. The reports of the secretary and of the treasurer were accepted, and a budget for 1948-49 totaling \$1,295 was approved.

3. Dr. Leo P. Crespi, chairman of the Program Committee, reported that 96 abstracts were received in comparison with 54 of last year. Eighty-seven papers were scheduled and certain other abstracts were assigned to round-table discussions where they would be more appropriate. Either the program facilities of the EPA will have to be expanded or a higher proportion of the less outstanding papers will have to be rejected in the future.

4. Dr. Roy B. Hackman, chairman of the Local Arrangements Committee, did not report formally at the business meeting; members of the Association felt that he and his committee (Dr. James D. Page, Dr. Harold C. Reppert, and Dr. Hughbert Hamilton) had functioned at a very high level with the result that the physical arrangements for the meetings and many other details necessary for the convention were to be commended. The administration of the University and the staff and graduate students in the Department of Psychology were exceedingly gener-

ous of time and effort. A motion was passed as follows: That this Association go on record as expressing its appreciation to Temple University for the hospitality it has extended to the Association and that we offer our special thanks to all those who have been instrumental in making this meeting such a pleasant success.

5. Dr. Robert T. Rock had been appointed by the president as chairman of the Election Committee because of the fact that Dr. Anastasi, the immediate past president and normally the chairman of the committee, was a candidate for office. He was assisted by Dr. Henry E. Garrett.

Officers were elected to serve as follows: *President*, (1948-49), Dr. Otto Klineberg, professor of psychology, Columbia University; *Directors*, (1948-51), Dr. Anne Anastasi, Fordham University, and Dr. Clarence H. Graham, Columbia University.

The membership voted at the business meeting to elect Dr. Francis W. Irwin to complete the term of Dr. Daniel Katz on the Board of Directors, Dr. Katz having resigned because of his moving to the University of Michigan.

6. The Board of Directors reported the following appointments: *Auditing Committee* (1948), Dr. Robert M. Gagne, Connecticut College, and Dr. Wilbert S. Ray, Trinity College; *Program Committee*, Dr. Alphonse Chapanis, Johns Hopkins University, to serve for the term 1948-51 to replace Dr. Francis W. Irwin whose term expires, and Dr. Richard S. Crutchfield to serve as chairman for 1948-49; Dr. Leo P. Crespi will continue to serve on the committee as senior member; *Representative on the Council of the A.A.A.S.*, Dr. Frank A. Beach, Yale University, 1948-50; *Chairman of the Committee on Local Arrangements* (1948-49), Dr. Seth Arsenian, Springfield College.

7. In recognition of the many years Dr. Elaine Kinder has served as representative of the EPA on the A.A.A.S. Council, a motion was passed to officially thank Dr. Kinder for her excellent service throughout the years.

8. The Membership Committee, composed of Dr. Harold Schlosberg and Dr. Stanley Estes, recommended two lists of applicants for membership. One list consisted of those who were already members of the American Psychological Association and who automatically met the requirements of the EPA; the second list consisted of individuals whose credentials had to be examined more carefully to ascertain that they had completed the requirement of one full year

of graduate study in psychology. The membership voted to elect 112 applicants to membership. Assuming all qualify by payment of dues, and allowing for some resignations of members, the approximate membership as of May 1, 1948, is 1000 persons.

The Membership Committee made some recommendations to the Board regarding improvement of the application blank and the endorsement of applicants who are not members of the APA. The committee had pointed out that "marginal members" of the EPA are in a position of endorsing other marginal applicants, which creates a situation of infinite regress as far as standards of the EPA are concerned. Brief comments from the floor indicated that the membership would be willing to consider a change in the by-laws next year to the effect that at least one endorser of a non-APA applicant must be a Fellow of the APA. The Membership Committee also called attention to ambiguity in the definition of the one year of graduate study in the by-laws, and a clarifying change in the by-laws will be submitted on this topic at the 1949 meeting.

9. Changes in the By-Laws: The rules for eligibility to membership were changed to provide a more clear-cut basis for membership of persons who are not members of the APA. Because of this action, Associate Members and Fellows of the APA are now automatically qualified, and other applicants must present evidence of one full year of graduate study in an accredited university, which is interpreted as being graduate study in the field of psychology. The members approved a second change in the by-laws to provide for the automatic election of applicants who are members of the APA and who live in the Eastern Psychological Association territory. Previously they have had to wait until the annual meeting to be elected by the membership as a whole. In view of the fact that they are automatically qualified to membership, this seemed unreasonable. The changed by-law provides that the secretary of the Association will elect them, in the name of the Members, and at any time during the year. Such election becomes official upon payment of the initial dues.

10. The 1949 annual meeting of the Eastern Psychological Association will be held in Springfield, Massachusetts, on April 8 and 9 under the sponsorship of the colleges of Western Massachusetts. For the 1950 meeting, the Association has accepted the invitation of Johns Hopkins University.

11. The following motion was adopted by the membership: That the EPA goes on record as being opposed to segregation for racial and religious reasons in any of its activities and that it establish a committee to implement this policy in the future.

12. The financial statement for the fiscal year 1947-48, prepared by the Treasurer, Weston A. Bousfield, and verified by the Auditing Committee composed of Robert M. Gagne and Wilbert S. Ray, is as follows:

FINANCIAL STATEMENT AS OF MAY 1, 1948

For The Fiscal Year 1947-48

INCOME

Membership Dues	
Dues for the current year (1947-48)	\$705.00
Arrears	78.00
Advance payments	24.00
Guest Fees	596.00
Interest on Savings Account	31.10
Profit from Annual Banquet	50.65
Sale of Programs at Annual Meeting	24.75
Total Income	1509.50

EXPENDITURES

Publication of Proceedings	83.40
Office of the Secretary	400.00
Office of the Treasurer	192.50
Printing and Stationery	389.87
Postage	76.10
Contribution to Inter-Society Committee for National Science Foundation	100.00
Traveling Expenses of Officers	33.65
Miscellaneous Expenses	28.17
Total Expenditures	1303.69
Surplus for 1947-48	205.81

BALANCE SHEET

Cash: Fifth Avenue Bank of New York	1116.94
New York Savings Bank	2095.07
Petty Cash (Treasurer)	3.61
Total Cash	3215.62
Capital: As of May 24, 1947	3009.81
Surplus for 1947-48	205.81
Total Capital	3215.62

We, the Auditing Committee for the year 1947-48, have examined the records in connection with this statement and find it to be a true and correct account.

Signed
(R. M. GAGNE)

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(W. S. RAY)

PROGRAM

Friday Morning

Public Opinion

LEO P. CRESPI, *Chairman*

- A public opinion approach to the problem of personal security. *Andie L. Knutson, Princeton University.*
- The role of public opinion in foreign policy. *W. Phillips Davison, Princeton University.*
- Politico-economic orientations of U. S. religious denominational groups. *Wesley Allinsmith, Princeton University.*
- Some psychological errors in polling. *Hadley Cantril and A. Hastorf, Princeton University.*
- Liberal conservative opinions and level of information. *George Horsley Smith, Princeton University.*

Comparative and Physiological

CLIFFORD T. MORGAN, *Chairman*

- The electroencephalogram in the curarized mammal. *Edward Girden, Brooklyn College.*
- The effect of previous sound stimulation upon the convulsive behavior of rats subjected to a deficiency of magnesium. *F. H. Palmer and R. A. Patton, University of Pittsburgh and Western State Psychiatric Institute.*
- The effects of varying certain components of the electroconvulsive shock impulse on the duration of convulsive behavior in the albino rat. *John C. Townsend, Roger W. Russell, and Robert A. Patton, University of Pittsburgh and Western State Psychiatric Institute.*
- Effects of a series of electroshock convulsions on the learning and retention of a maze habit in the white rat. *Harry W. Braun, Roger W. Russell, and Robert A. Patton, University of Pittsburgh and Western State Psychiatric Institute.*
- Animal hypnosis: a study in the induction of tonic immobility in chickens. *T. T. Gilman, A. U. Moore, and F. L. Marcuse, Cornell University.*
- Muscular tension in visual work. *T. A. Ryan and M. E. Bitterman, Cornell University.*

Projective Techniques

SILVAN TOMKINS, *Chairman*

- An adolescent problem reflected in the TAT. *Leopold Bellak and Leah Levinger, Jewish Board of Guardians.*
- The effect of different amounts of mastery deprivation on the characteristics of thematic apperception

stories. *D. C. McClelland, J. W. Atkinson, and R. A. Clark, Wesleyan University.*

A new approach to the Thematic Apperception Test. *Zygmunt A. Piotrowski, Psychiatric Institute, New York.*

Elation as manifested in the Rorschach Test and an association test. *Catherine P. Dougan and Livingston Welch, Payne-Whitney Clinic and Hunter College.*

Eye-blink as a behavioral correlate of Rorschach color shock. *Howard L. Siple, University of Rochester.*

Human Learning

FRANCIS W. IRWIN, *Chairman*

- The effect of the experiences of contrasted groups upon the formation of a new scale of judgment. *M. E. Tresselt, New York University.*
- Attitude as a determinant of memory change. *Thelma G. Alper, Leo Postman, and Sheldon J. Korchin, Harvard University, Indiana University, and Veterans Administration (Philadelphia).*
- Transfer of training from practice on components of a motor skill. *Robert M. Gagne and Harriet Foster, Connecticut College.*
- Positive transfer, negative transfer and the Skaggs-Robinson hypothesis. *Edwin B. Newman, Harvard University.*
- Motor learning as a function of two different degrees of distribution of practice. *G. A. Kimble, Brown University.*
- An experimental study of secondary reinforcement, with special reference to language theory. *O. H. Mowrer and Dorothy Kunberger, Harvard University.*
- Closure responses in the manipulation of geometrical figures. *George W. Hartmann and Paul H. Schiller, Teachers College, Columbia University.*

Friday Afternoon

Social Psychology (I)

RICHARD S. CRUTCHFIELD, *Chairman*

- Some significant correlates of love and family attitudes and behavior. *Albert Ellis, New York.*
- Social facilitation and inhibition in multiplying—a doubt. *Wilbert S. Ray and Paul H. R. Waldron, Trinity College.*

The psychology of tipping. *Robert M. Brown and Leo P. Crespi, Princeton University.*

The psychological significance of social roles. *S. S. Sargent and John Useem, Columbia University and University of Wisconsin.*

Toward a psychology of industrial conflict: I. Perception. *Ross Stagner, Dartmouth College.*

An experimental semiotical approach to the psychology of thinking and communication. *J. Kennedy Adams, Princeton University.*

Is leadership specific to the situation? *Launor F. Carter and Mary Nixon, University of Rochester.*

Psychotechnology

JAMES J. GIBSON, *Chairman*

The speed of correctly reporting the number of visually presented objects. *Enid Moeslein and T. W. Reese, Mount Holyoke College.*

The effects of intensity and wave length of illumination on the speed and accuracy of reading instrument dials. *Milton L. Rock and S. D. S. Spragg, University of Rochester.*

The accuracy of making settings of levers and dial knobs. *S. D. S. Spragg, A. L. Davidson, and D. B. Devoe, University of Rochester.*

The effect of dial design and size on the speed and accuracy of dial reading. *Charles W. Bray, William E. Kappauf, and William M. Smith, Princeton University.*

Accuracy of interpolation in a polar coordinate plot as a function of the separation between scale markers. *Michael Leyzorek, Johns Hopkins University.*

Evaluation of lights as warning devices. *W. G. Matheny, University of Maryland.*

Auditory warning signals in aircraft. *Robert C. Houston, University of Maryland.*

Fatigue in a manual rotary task. *J. David Reed, Johns Hopkins University.*

Animal Learning

NEAL E. MILLER, *Chairman*

The effect of inverting the light environment on depth perception in chicks. *Eckhard H. Hess, Johns Hopkins University.*

Temporal and frontal contributions to an auditory conditioned response. *D. H. Raab and H. W. Ades, Brooklyn College and Emory University.*

Maze learning in the absence of primary reinforcement: a study of secondary reinforcement. *Irving J. Saltzman, Johns Hopkins University.*

Reaction potential as a function of length of food deprivation. *Harry G. Yamaguchi, Yale University.*

The effect of number of reinforced trials on the strength of approach in an approach-avoidance conflict. *Edna L. Kaufman, Yale University.*

Double, triple, and quadruple alternation in the white rat. *Charles B. Woodbury, Yale University.*

Delayed response in the fish *phoxinus*. *Paul H. Schiller, Yerkes Laboratories of Primate Biology.*

Clinical Diagnosis and Therapy

JAMES D. PAGE, *Chairman*

On research in clinical diagnosis. *Charles N. Cofer, University of Maryland.*

1948 concept formation test. *J. Q. Holsoapple, Veterans Administration, Princeton, New Jersey.*

The Wechsler-Bellevue and prognosis. *Jean Zeaman and Gerald R. Pascal, Butler Hospital, Providence.*

Mirror-drawing as a clinical device. *Daniel Brower, New York University and Brooklyn College.*

A validation study of the Shipley-Hartford Scale. *Erma T. Wheeler, University of Pittsburgh.*

Comparison of objective test performances of subjects not under treatment with Muench's "successful" and "less successful" cases following non-directive psychotherapy. *Roy M. Hamlin and George W. Albee, Veterans Administration, Pittsburgh, Pa.*

The use of non-directive therapy in the treatment of a case of alcoholism. *Donald Dietrich, C.C.N.Y. School of Business.*

Description and evaluation of a corrective program for reading disability. *Robert S. Redmunt, New York University.*

Friday Evening

Banquet and Presidential Address

Toastmaster: ANNE ANASTASI, *Fordham University.*
Greetings from the University. *Millard G. Gladfelter, Provost, Temple University.*

Presidential Address: A Social Agency as a Setting for Research—The Institute of Welfare Research. *Joseph McVicker Hunt, Institute of Welfare Research, Community Service Society of New York.*

Annual Business Meeting.

Saturday Morning

General Psychology and FilmsC. H. SMELTZER, *Chairman*

Differences in early achievement between male contestants in the First Annual Science Talent Search. *Harold A. Edgerton, Stuart H. Britt, and Ralph D. Norman, Richardson, Bellows, Henry and Co., McCann-Erickson, Inc., and Princeton University.*

The investigation of organization in biological response-mechanisms through the aid of concepts and methods derived from the theory of automatic control systems. *George L. Kreezer, Cornell University.*

The use of laboratory sections in the teaching of introductory psychology. *W. A. Bousfield, University of Connecticut.*

The design of the laboratory sections of the introductory course in psychology at the University of Connecticut. *Olga E. deCillis, University of Connecticut.*

Film, preceded by five-minute introduction by author. Chimpanzees reared in darkness. *Austin H. Riesen and George Clark, Yerkes Laboratories of Primate Biology.*

Film, preceded by five-minute introduction by author. Tests of vestibular sensitivity in normal and impaired subjects. *Karl M. Dallenbach and Dean Foster, Cornell University.*

Clinical and AbnormalWAYNE DENNIS, *Chairman*

Experimental study concerning factors underlying hypnosis. *Frances Corn-Becker, Livingston Welch, and Vincent Fisichelli, Payne-Whitney Clinic, Cornell University, and Hunter College.*

Lobotomy: intensive psychological study of a single case. *Herbert A. Reusch, Butler Hospital, Providence.*

Effects of pathological anxiety in childhood on EEG and conditioned PGR. *Ethel Schiff, Pat Dugan, Margaret Kennard, and Livingston Welch, Hunter College.*

Preliminary investigations in psychological research on above-the-knee amputees. *Lawrence Abt and Sidney Fishman, New York University.*

Accident proneness is overrated. *Alexander Mintz and Milton L. Blum, City College of New York.*

Tests and MeasurementALBERT K. KURTZ, *Chairman*

Subjective ranking versus score ranking of interest values. *Rose G. Anderson, The Psychological Corporation, New York.*

The screening and selection of executive trainees—validation checks. *William J. Crissy, Vick Chemical Company, New York.*

Development and validation of a stenographic proficiency test. *Harold Seashore, The Psychological Corporation, New York.*

The validation and use of the diagnostic reading tests. *Frances O. Triggs, Educational Records Bureau, New York.*

The effect of speed on item-test correlation coefficients. *Alexander G. Wesman, The Psychological Corporation, New York.*

A short-cut method for multiple R. *W. L. Jenkins, Lehigh University.*

Some test needs for vocational counseling of adults. *Lorenz A. Meyer, Veterans Administration, Washington, D. C.*

Round Table Discussion: Problems of Quantification and Objectification in Personality MeasurementJOSEPH ZUBIN, *Chairman*

Participants: Jerome S. Bruner, Harvard University; M. Garrison, Jr., N. Y. Psychiatric Institute; W. S. Kogan and Roy M. Hamlin, Veterans Administration, Pittsburgh; G. R. Pascal, Butler Hospital, Providence; R. M. Rust, Yale University; Frederick Wyatt, McLean Hospital, Waverly, Mass.

This Round Table Discussion was a joint program of the EPA and the Rorschach Institute.

Saturday Afternoon

Round Table Discussion: Effects of Electric Convulsive Therapy on the Functioning of Mental PatientsALBERT I. RABIN, *Chairman*

Participants: P. Hoch, N. Y. Psychiatric Institute; I. L. Jan's, Yale University; Bernard F. Riess, Hunter College; R. W. Russell, University of Pittsburgh and Western State Psychiatric Institute; E. J. Stainbrook, N. Y. Psychiatric Institute; Joseph Zubin, N. Y. Psychiatric Institute.

Social Psychology (II)

CARROLL. C. PRATT *Chairman*

The effect of interviewer's sex, rank, and specialty upon the ratings of professional women. *Hyman Brandt, Personnel Research Section, AGO.*

Effect of a directed social change—improved housing. *Jerome M. Seidman, University of Maine.*

An evaluation of a high school intercultural education program. *Max Deutscher, Commission on Community Interrelations of the American Jewish Congress.*

Development of attitudes toward the self and towards the dominant group. *Bernard Rosenthal, Princeton University.*

The prejudices of out-groups. *Malcolm G. Preston and Lessing A. Kahn, University of Pennsylvania.*

Attitudes of children toward Negroes. *Ellen H. Pulford and Richard T. Sollenberger, Mount Holyoke College.*

What are the psychological effects of segregation under conditions of equal facilities? *Isidor Chein, Commission on Community Interrelations of the American Jewish Congress.*

Can research in social science be both socially useful and scientifically meaningful? *Stuart W. Cook*

and *Claire Sellitz, Commission on Community Interrelations of the American Jewish Congress.*

Sensation

HARRY HELSON, *Chairman*

Cyclic variations in visual acuity as a function of viewing distance. *M. R. Seib and John Volkmann, Mount Holyoke College.*

Latency of reaction of different parts of the retina. *Alex L. Sweet, Johns Hopkins University.*

A subjective brightness scale. *R. M. Hanes, Johns Hopkins University.*

Results of a color vision survey with five pseudo-isochromatic tests. *Alphonse Chapanis, Johns Hopkins University.*

Interaural inhibition and summation. *Ira J. Hirsh, Harvard University.*

Pitch characteristics of short tones: pitch change as a function of duration. *J. M. Doughty and W. R. Garner, Johns Hopkins University.*

Reversible melodies. *George A. Miller, Harvard University.*

Gustatory threshold for sodium chloride in a condition of salt need. *John K. Bare and Carl Pfaffmann, Brown University.*

SESSION B. TESTS AND TESTING (*Continued from page 365*)

Bellevue as applicable for use in an adult short-contact clinic. This short form has served as a reliable indication for further testing and has yielded qualitative material for aid in diagnosis.

An abbreviated form of the McGill Verbal Situation Test. *Ivan N. Mensh, William A. Hunt, and Elizabeth G. French, Northwestern University.*

An abbreviated 12-item form of the McGill Verbal Situation Test has been validated and standardized upon a group of 800 Ss. The test shows promise as both an individual intelligence test and a clinical indicator. Norms and standard scores are presented.

Category difficulty study on the University of Wisconsin Card Sorting Test. *Omer R. Jones and David A. Grant, University of Wisconsin.*

The relative difficulty of the abstraction categories of a Weigl type test was investigated by means of a Latin-square experiment using 96 Ss. The categories, in order of increasing difficulty, were number, form, and color. Number was probably easiest in

this test because of spatial characteristics of the cards.

A study of performance on a deterioration test as related to quality of vocabulary and rigidity. *Mary Morrow Brown, Elgin State Hospital.*

The Hunt Test for Organic Brain Damage and a card sorting test were administered on two successive occasions to 26 college students and 22 residents of county homes for the aged. Real differences in learning remain when intelligence level is statistically controlled; rigidity increases with age; quality of vocabulary decreases.

The group measurement of color efficiency. *W. A. Kerr and Mervin Rudolph, Illinois Institute of Technology.*

Early theory and present empirical procedure in study of color vision are compared. A brief history of practical techniques is presented. The construction of new group tests is described, and relevant data on reliability, certain aspects of validity, and norms are presented.

PROCEEDINGS OF THE 18th ANNUAL MEETING OF THE ROCKY MOUNTAIN BRANCH OF THE AMERICAN PSYCHOLOGICAL ASSOCIATION

LAWRENCE S. ROGERS, *Secretary-Treasurer*

Veterans Administration, Denver

THE Rocky Mountain Branch of the American Psychological Association held its 18th annual meeting with the Psychology Section of the Colorado-Wyoming Academy of Science on May 7 and 8, 1948, at the Colorado State College of Education, Greeley, Colorado. Thomas H. Howells, President, served as chairman.

At the business meeting Lawrence I. O'Kelly reported on the progress on securing uniform standards for the certification of consulting and educational psychologists in the Rocky Mountain region. The new committee will consist of Leigh C. Douglass, chairman; Carla Swan; and Lawrence I. O'Kelly.

Arrangements for the 1949 meeting of the APA in Denver were outlined by T. H. Cutler. The meeting is scheduled to be held from September 5 through 10, 1949.

A new constitution and by-laws for the Rocky Mountain Branch, drafted by a committee consisting of Robert H. Bruce, Karl Muenzinger, and Lillian G. Portenier, was adopted.

Officers of the Branch elected for the year 1948-49 are: President, Lillian G. Portenier, University of Wyoming; President-Elect, Lawrence I. O'Kelly, University of Colorado; Secretary-Treasurer, Lawrence S. Rogers, Veterans Administration, Denver.

PROGRAM

THOMAS H. HOWELLS, *Chairman*

Friday Morning, May 7

1. The effect of orientation on aesthetic preference for simple figures. *Hugh B. McFadden, University of Wyoming.*
2. Techniques of studying classroom learning. *Robert A. Davis, University of Colorado.*
3. Crossroads in the mind of a rat. *Wilson J. Walshall, Jr., University of Wyoming.*
4. The influence of different degrees of motivation upon the amount of spatial learning. *Howard Kendler and Helen Chamberlain Menchen, University of Colorado.*

Friday Afternoon, May 7

5. The effect of varying intervals of diathermy upon the temperature and water consumption of rats. *Robert H. Bruce, University of Wyoming.*
6. Motivation and retention. *A. W. Heyer and Lawrence I. O'Kelly, University of Colorado.*
7. A functional theory of emotion. *Karl F. Muenzinger, University of Colorado.*

Saturday Morning, May 8

8. A criticism of theories of the self. *Thomas H. Howells, University of Colorado.*
9. Synthesis of methodologies for teaching of communication. *Elwood Murray, University of Denver.*
10. Personality tests in a university guidance program. *Lillian G. Portenier, University of Wyoming.*

Comment

Changes in 1948 Directory

To the Editor:

The new 1948 APA Directory arrived a few days ago. . . . My first suggestion is that future directories should indicate the certifications of each member. Abbreviations can be devised quite easily to indicate in a small amount of space members who are diplomates of the American Board of Examiners in Professional Psychology, who are certified under various state laws, or under the regulations of various state departments of education or of mental hygiene. It will be very useful to have these certifications available.

Another suggestion is that the dates on which election to Fellowship is indicated should take into account the Fellows of the AAAP. There are a number of outstanding APA Fellows who belonged to the former society, but who did not belong to the APA before the reorganization. I notice that quite a few of these have "F 45" after their names, when they were Fellows of the AAAP perhaps in 1937 or 1938. If we regard the new reorganized Association as equally the child of its two predecessors, would it not be fair to give recognition to earlier membership in the AAAP?¹

Another and rather minor suggestion is that the honorary societies might be omitted. Perhaps someone else has advanced a strong reason for knowing whether members belong to Phi Beta Kappa, Sigma Xi, and the like, but many of us find that these honorary fraternities

¹ Following Dr. Shaffer's suggestion, we have entered the earlier date for both Fellows and Associates of AAAP on the permanent APA record card. The next Directory will show these changes.—DAEL WOLFLE.

take up space without giving any really valuable information. If other members find that these honoraries are useful to them, they should speak up.

LAURANCE F. SHAFFER
Teachers College, Columbia

To the Editor:

Why not change the publication schedule of the APA Directory so that it coincides with the academic instead of the calendar year? If this were combined with putting it out as a number of the regularly scheduled Bulletin instead of as a low-priority, single publication, wouldn't we have a chance of getting our Directories at the beginning of the Fall term?

I believe the members in non-academic positions are about equally likely to change their address in any given month; certainly there is no definite tendency for them to move on New Year's day. Those in academic life are much more likely to change their address during the summer. As it is, even if the Directory could be produced without any delay on January 1st, it would be a half year late for this group, the only one whose changes are seasonal.

Most of us know where we are going to teach next year by some time in June. If not, we are worried! Why not ask for data on addresses in the Spring instead of the Fall and start setting type for the Directory in the Summer instead of in mid-Winter? I think most people would rather miss a few changes for a whole year than all of them for at least a half year.

NEAL E. MILLER
Yale University

Note on Ethical Standards

To the Editor:

If it is proper and right, as Munn has proposed, that an author should credit others with the ideas he uses in the textbooks he writes, shouldn't he also take responsibility for his criticism of others? In other words, if there are to be codes of ethics for writing textbooks, shouldn't there also be a code for reviewing, and shouldn't it be an established practice that those who express an opinion on psychology in print should be responsible for those opinions to the extent, at least, of signing their reviews?

A violation of this elementary principle is illustrated by the review of the *Encyclopedia of Psychology* in the July 1947 issue of the American Library Association's *Subscription Books Bulletin*. Since the review is un-

signed, it is not clear that it was written by a psychologist or a committee of psychologists. Indeed, from internal evidence it would seem that the review was written by a proofreader, for most of the criticisms concern indexing, make-up, use of inverted headings, length of articles, alphabetizing, and running titles. There is also this gem in the first paragraph: "Of the over eighty contributors listed, the names of less than half appear in either *American Men of Science 1944* or *Who's Who in America 1946-47*." Evaluating a book on the basis of the authors' established reputations is an evasion of the responsibility the reviewer has of evaluating the material.

GEORGE K. MORLAN
Springfield College

Publication of Business Research

To the Editor:

A survey of the "applied" titles published recently in the *Psychological Abstracts* shows a preponderance of

articles in the clinical field. The recent change in the format of the *Abstracts* which groups applied non-clinical articles under the separate heading "Industrial and Other

Applications" serves to point up this comparison. The reasonable conclusion would be that "applied" is becoming almost synonymous with "clinical" psychology. But this does an injustice to psychologists in business and industry.

Of course, much of the work done by business psychologists is not available for publication since it belongs to the client who commissioned it. But anyone familiar with the field knows that there is much material that is definitely suited to publication. But their fellow-psychologists rarely see reports of such work. Why?

Two possibilities exist. Business psychologists generally do not feel the same pressure for publication that affects their academic colleagues. Thus, they often lack the incentive to prepare their material for publication. But, perhaps more often, the material is published in a medium outside the range of the abstractors. In either event, valuable material is lost to the profession as a whole.

This situation could be remedied through the publication of a special section in the *Journal of Applied Psychology*. This would be devoted to brief reports of new research in the applied non-clinical field, written by researchers who are interested in contributing to the development of applied psychology but who, heretofore, have been hindered by lack of time.

As an additional service, this new section should cover articles of interest to the profession which appear in obscure media (the business "trade press", for example). Written, perhaps, by a contributing editor, these summaries would help to integrate "business" and "academic applied" psychology. If the summaries are picked up by the *Psychological Abstracts*, "Industrial and Other Applications" will take its place as a full-fledged member of the profession.

ALFRED B. UDOW

Foote, Cone & Belding

Prior Publication

To the Editor:

Being one of the few psychologists who belong to that "time when psychologists could keep up with almost everything their colleagues wrote", I fully agree with Carroll C. Pratt that a scientific society ought not to "cause impecunious members to feel that the association regards their vanities as less deserving of being puffed up than those of their economically more favored competitors." Admitting that early publication may be an advantage to the author, a compromise is possible. Permit an author to "buy" immediate publication of a self-written comprehensive abstract which should be of the nature of a real "preview" of the article, but not extending over more than one tenth of the pages of the article submitted simultaneously. Even an impecunious author could afford to "buy" that priority. And many a regular reader, after having read such a "preview," would be delighted thus to have been aided in making up his mind whether he could afford to leave the "embellished" article on the regular publication date unread without risking a real loss of information.

MAX F. MEYER
Miami, Florida

To the Editor:

In the May issue Dr. Bingham presents the case in favor of prior publication in the journals owned by the Association. He states the case ably, arguing chiefly

from the premise of greatest good to the greatest number of readers. He does not, however, answer the principal objection to the policy.

Rather he brushes aside the fact that the practice is undemocratic and that it makes for injustice with the assertion that "undemocratic" and "injustice" are "emotionally charged words." Unfortunately for Dr. Bingham's position, the issue involved is precisely one that calls for a value judgment. Prior publication means that a contributor can buy professional favor from the Association. It means that early attention to one's scientific work can be purchased for cash. It means that the poor contributor is outdistanced by the rich contributor with the express aid and official approval of the Association. The policy is, therefore, undemocratic at its core. Dr. Bingham does not, and I think cannot, meet this objection.

If it seems desirable to augment the size of the various APA journals; and if it seems necessary to pass the cost of this enlargement on to the contributors; then the fair arrangement would be for *every* author to pay a fee for publication. This policy would treat all authors alike and guarantee that each will benefit equally from the reduction in lag.

GORDON W. ALLPORT
Harvard University

Psychologists in Telephone Directories

To the Editor:

Before too many teachers of psychology go off the deep end concerning the "horrors now occurring under the listing of 'Psychologists' in classified telephone directories of the nation," let me give my opinion as a practicing psychologist: the psychological profession itself is largely at fault for any undesirable conditions that may exist. . . .

I constantly feel the need for a more practical application of psychology. . . .

There are a considerable number of highly trained and experienced psychologists throughout the nation who are not members of the APA. To condemn this group would be folly of the worst sort. Yet, it seems to be the opinion of a few who have expressed their views on this subject

that these individuals are quacks simply because they are not members of the APA. I have talked with and carried on correspondence with a few of these men and women. Their main criticism is that the APA is too largely dominated by college teachers and research-minded individuals who are not business men. Personally I can see their point.

Since the articles have not listed Dayton among the "horrors," let us see what the situation is here. There are five names listed in the yellow pages. Three business cards carry four of these names. Of the five listed, two are members of the APA with PhD degrees. Non-members include the school psychologist hired by the Board of Education of the Dayton schools and a minister and his wife. The minister has a degree from Harvard College, is a member of the American Association of

Social Workers, and a member of the Board of Trustees of the County Mental Hygiene Society. His wife is listed as a psychoanalyst. Both are operating with the full approval of the proper county authorities.

It is very evident that there is no quackery in Dayton—no "horrors." I am of the opinion that a careful analysis throughout the nation will reveal that the situation is better than many suspect.

Of course quackery should and must be stamped out, but why not permit the qualified practicing psychologists to have a hand in this? Too many boards and committees of the APA concerned with the problem are dominated by college teachers who cannot be expected to assume the correct attitude toward the problem.

R. D. MAC NITT

Institute of Psychological Services, Inc.

Semantics vs. Therapeutics

To the Editor:

In recent years so much has been made of the pros and cons of differing therapeutic procedures that progress may be lost in the shuffle. . . .

The discouraging results of a level of heightened emotional reaction is sharply drawn for us in the history of psychoanalysis. Those basically sound therapeutic techniques of analysis were lost for years to those who rejected Freud. In return, the analysts were handicapped because they maintained a strong indifference to the contributions of science. This mutual exclusiveness was probably the result of acute unconscious feelings of inferiority. The current furor about the "two-point" scale of directive-nondirective therapy sounds ominously repetitious.

The literature, if representative, indicates that we are more concerned with emotionally-toned words to describe therapeutic procedures than we are with the procedures.

Differences in therapy hold our attention; universal problems seemingly are dull and unimportant.

If our intense feelings eventually stimulate meaningful research and resulting integration of points of view, psychology may benefit. If, on the other hand, we debate the issue of which method is "client centered" and which is "democratic;" if we remain "emotionalized semanticists," both sides will lose.

It is important to realize that this battle has contributed much to broaden the scope of psychological activity in psychotherapy. It is equally important to realize that it stems from our deep insecurity about our own skills. Without this recognition we cannot soon turn our attention from semantics to perfection of therapeutic technique.

RAY H. BIXLER

Minnesota Psychiatric Institute



HELEN PEAK

Chairman of the Department of Psychology, Connecticut College
Recording Secretary, American Psychological Association

Across the Secretary's Desk

A COMPARISON OF THE STRENGTH AND WEAKNESS OF APA DIVISIONS

The strength of a division of the APA can be measured, at least in part, by the interest which its members show in supporting the division activities. Since the reorganization of the APA in 1945, several simple indices of member interest in each division have been accumulating in the APA office.

Data are presented for eight variables in the table. In the following paragraphs, each variable is defined, any special assumptions or interpretations necessary for its use are explained, and outstanding divisions, at either end of the scale, are named.

SIZE OF DIVISIONS

Definition: The total membership is listed for each division as of April 22, 1948. Previously elected members who resigned by not paying 1948 division dues are not included.

Comparisons (Column 1): Divisions with fewer than 100 members are Esthetics, School, and Public Service. The largest divisions are Clinical and General.

PERCENTAGE OF MEMBERS WHO RESIGNED THROUGH NONPAYMENT OF DUES

Definition: The number and the percentage of members of each division who resigned through nonpayment of division dues could be computed this year for the first time. Previously, extra payment for extra divisions had not been charged.

Special methods and cases: Members who belonged to only one division were considered to have paid for it with their basic APA dues unless they specifically stated that they did not wish to belong (as a few did). Members who belonged to more divisions than they wished to pay for checked the ones in which they preferred to retain membership, and omitted payment for the others.

The number who resigned divided by the number who were elected to each division in 1947 gave the percentages shown in the table.

Comparisons: The percentage of Fellows resigning was greatest for the Division of Teaching, next greatest for Educational, and next for Maturity. The percentage of the total membership resigning (Column 2) was greatest for Teaching. Maturity, Public Service, and Educational also had substantial numbers of resignations.

In six divisions two per cent or fewer members resigned: Physiological, SPSSI, Clinical, Industrial, School, and Guidance.

PERCENTAGE DECLINING NOMINATION TO DIVISION OFFICES

Definition: Each year the APA has conducted the elections for some divisions. In preparing the ballot it was necessary to ask the nominees if they were willing to serve if elected. The percentage of nominees who declined to serve is tabulated for each division separately for the past two years, and also averaged. The tabulation is in percentages. For example, in 1947, 55 members of the Division of General were asked if they would serve in various offices of that division, and 34 declined. Therefore 62 per cent declined the nominations.

Special methods and cases: If the person nominated was not eligible, he was not regarded as declining.

In most divisions, nominees are offered and are able to accept nomination for more than one office. The Division of Clinical, on the other hand, has rules which usually prevent the nominee from accepting more than one office. It is therefore not included in the comparison.

Comparisons (Column 3): In 1947 and 1948 combined, the Division of General had 51 per cent of its nominees decline to run for offices; Child had the next highest percentage, 49. Theoretical-Experimental, Personality, Industrial and Public Service all had 30 per cent or more declinations.

A number of people were nominated for several offices in one division or for offices in several divisions; the high percentage of declination in many divisions was an inevitable result.

The zeros in 1948 for School and Military may be artifacts; the names of candidates who were unwilling to serve if elected may have been removed before the lists of nominees were sent to the APA office.

NUMBER OF PROGRAMS SPONSORED BY THE DIVISIONS AT APA MEETINGS

Definition: The total number of programs sponsored by each division in 1946, 1947, and 1948 was divided by the number of division members. The resulting figure is stated in terms of programs per 100 members, an audience of usual size. The figure .7 for the Division of General means that this divi-

Measures of division strength and weakness

DIVISION	SIZE	MEMBERS RESIGNING THROUGH NON-PAY- MENT OF DUES				PER CENT DECLINING NOMINATION TO DIVISION OFFICES			PROGRAMS PER 100 MEMBERS IN 3 YRS.	PER CENT AT 1947 BUSINESS MEETING	PER CENT VOTING IN 1948 ELECTION	PER CENT ELECTED AS FEL- LOWS IN 1947	HAS DIVISION SPECIAL REQUIRE- MENTS FOR FELLOWS
		Total num- ber	Percentage of: 2			1947	1948	Aver- age 3					
			Fell.	As- soc.	Total								
	1								4	5	6	7	8
1. General	537	45	9%	7%	8%	62	40	51	.7	2%	58%	3%	No
2. Teaching	184	49	25	17	21	36	18	27	2.7	6	51	2	Yes (?)
3. Theor-Exper.	456	36	3	10	7	35	37	36	3.3	24	57	2	Yes
5. Measurement	394	27	1	7	6	19	19	19	2.3	9	54	2	Yes
6. Physiol.	103	2	1	6	2	27	14	21	16.3	29	78	7	Yes
7. Child	350	27	6	8	7	43	54	49	1.4	6	52	1	No
8. Personality	487	34	5	8	6	25	53	39	2.3	10	57	0	No (?)
9. SPSSI	423	4	—	—	1	?	?	?	5.2	?	?	1	No
10. Esthetics	60	4	0	10	6	25	8	17	3.3	15	48	0	Yes
12. Clinical	812	13	0	2	2	?	?	?	3.8	19	72	15	Yes
13. Consulting	187	7	4	—	4	?	?	?	3.7	11	?	12	Yes
14. Industrial	184	4	4	0	2	40	23	32	5.4	33	73	0	Yes
15. Educational	408	66	20	9	14	?	6	?	2.2	9	45	0	No
16. School	88	2	0	3	2	?	0	?	4.5	31	90	0	Yes
17. Guidance	433	8	1	2	2	?	24	?	1.7	16	75	2	Yes
18. Pub. Service	91	22	12	22	19	32	27	30	0	21	52	2	No
19. Military	152	14	7	14	8	?	0	?	10.5	24	74	9	Yes
20. Maturity	136	33	19	21	19	?	0	?	5.1	7	50	1	No (?)

sion, with 537 members, scheduled a total of four programs in the three years.

Special methods and cases: The 1946, 1947, and 1948 Program issues of the American Psychologist were used as a basis for counting. Several assumptions were necessary to obtain these figures. For example, each group of four papers (in 1947 and 1948) was counted as one program (actually, Clinical programs in 1948 had nine papers).

Comparisons (Column 4): In three years, the Division of Psychologists in Public Service has never sponsored a program. General has sponsored but .7 per 100 members. Two other divisions with few programs per 100 members are Child and Guidance.

The Divisions of Physiological-Comparative and Military Psychology have been responsible for the most programs.

PERCENTAGE ATTENDING 1947 BUSINESS MEETING

Definition: The number estimated by the secretary of each division as attending the 1947 Business Meeting of the division in Detroit was divided by the total number of division members to give the percentage attending.

Special methods and cases: Data were not available for two divisions, General and SPSSI. If the secretary gave a range, I selected the middle of it. If

he gave his and another's estimate, I took the mean. When I had counted a division's attendance last fall, I averaged our estimates.

Two thousand people attended the APA meeting at Detroit, with roughly ten business meetings running simultaneously. An average of 200 at each was therefore theoretically possible. The actual average was 44 members per business meeting.

Comparisons (Column 5): The by-laws of several divisions define a quorum as 10 per cent of the members. Five divisions did not have that large an attendance: Teaching, Measurement, Child, Educational, and Maturity.

The three divisions with the largest percentage attending were Physiological, Industrial, and School.

PER CENT VOTING IN 1948 ELECTION

Definition: The APA conducted the 1948 elections for all but two divisions. The number of votes cast for officers in each division was divided by the total number of members in the division.

Comparisons (Column 6): The highest percentage of members voting was in the Division of School Psychologists. Physiological, Clinical, Industrial, Guidance, and Military were all above average. The other ten divisions all had a return of approximately 50 per cent.

PERCENTAGE OF NEW FELLOWS ELECTED IN 1947

Definition: To become a Fellow in the APA, an Associate must be nominated by a division. The number elected in 1947 upon nomination by each division was divided by the present division membership to obtain a percentage figure.

Comparisons (Column 7): The following divisions presented no Fellow candidates to the APA Council of Representatives at Detroit: Personality, Esthetics, Industrial, Educational and School. Only one per cent of the division membership was elected as Fellow by the Divisions of Child, SPSSI, and Maturity.

On the other hand, the Division of Clinical successfully nominated as Fellows 15 per cent of their membership. The Division of Consulting nominated 12 per cent of their membership. Together, these two divisions nominated 75 per cent of all newly elected Fellows. The other 25 per cent were nominated by eleven different divisions.

SPECIAL REQUIREMENTS FOR FELLOWS

Definition: In the January 1947 and April 1948 American Psychologist are lists of requirements for election as a Fellow in each division. Some divisions require nothing more than the minimum APA requirements. Other divisions have additional or more specialized requirements.

The last column of the table is a check list of special requirements for Fellows.

Special methods and cases: "Interest in the division" was not considered to be a special requirement. A division was considered to have special membership requirements only if education and/or experience either beyond or more specialized than that demanded by the APA was demanded of the candidate.

The Division on the Teaching of Psychology has stated a special requirement, but did not apply it in 1947. The Division of Personality has adopted a special requirement since April 1948. The Division on Maturity lists no special requirement, but in practice, they did not elect Fellows without special review of their qualifications.

Comparisons (Column 8): The divisions without special requirements at present are the Divisions of General, Teaching, Child, SPSSI, Educational, and Public Service.

CONCLUSIONS

DIVISION	NUMBER OF VARIABLES ON WHICH DIVISION WAS:		
	In upper half	Unknown	In lower half
1. General.....	3	1	4
2. Teaching.....	2	1	5
3. Theor-Exper.....	6	0	2
5. Measurement.....	4	0	4
6. Physiological.....	7	0	1
7. Child.....	1	0	7
8. Personality.....	2	1	5
9. SPSSI.....	3	3	2
10. Esthetics.....	3	0	5
12. Clinical.....	7	1	0
13. Consulting.....	4	2	2
14. Industrial.....	5	0	3
15. Educational.....	1	1	6
16. School.....	5	1	2
17. Guidance.....	6	1	1
18. Pub. Service.....	3	0	5
19. Military.....	5	1	2
20. Maturity.....	1	2	5

None of these variables is a measure of overall strength. A division can, for example, be small and still show up well on all other counts, as does the Division of Physiological and Comparative Psychology. Each variable is, however, in part determined by the amount of interest the members have in their division's affairs. In total, therefore, these eight variables give an approximate measure of the strength of each division.

Since there is nothing better than personal judgment to use in combining the variables, I have simply weighted all eight equally by tabulating the number of variables on which each division falls in the upper half or the lower half of all divisions.

Divisions were classified in the upper half of each distribution on the following basis:

1. 350 or more members
2. 4% or fewer resignations
3. 30% or fewer declining nominations
4. 3 or more programs per 100 members in 3 years
5. 16% or more attending business meeting
6. 57% or more voting
7. 2% or more elected as Fellows
8. Having special requirements for Fellows

The summary shows the distribution of these variables for each division. —HELEN WOLFE

Psychological Notes and News

Chester Elijah Kellogg died on July 9 at his home in St. Lambert, Montreal. He was 59 years old, and had taught at McGill for 28 years.

Frederic B. Knight, director of the Division of Education and Applied Psychology at Purdue University, died unexpectedly on Saturday, June 19. He was 56 years old.

Noel Keys, who had been professor of education at the University of California, died this spring.

Alfred H. Holway died on June 1. He was a research associate with the Eastman Kodak Company.

David B. Rotman, director of the Psychiatric Institute of the Municipal Court of Chicago, died on June 6.

Walter S. Hunter, with 64 other scientists and engineers of the wartime Office of Scientific Research and Development, has been awarded the United States Medal for Merit in recognition of his outstanding services to the armed forces. The citation, signed by President Truman, read in part as follows: "Dr. Hunter, as Chief of the Applied Psychology Panel, recognized that research on the psychological and physiological capacities of man in relation to the new instruments of warfare could contribute materially to the more effective utilization of both military personnel and instruments. His exceptional ability as a psychologist, and also as a leader, and his extremely effective liaison with the Services and with scientists in other fields of research, made his direction of the Panel most productive of useful results."

Frederick E. Terman, son of Lewis M. Terman, received the Medal for Merit for his work in electronics.

At the June Commencement of the University of Nebraska, **Bertha Luckey** was one of five persons given the Alumni Association's distinguished service award. At the same Commencement, **Guy T. Buswell** was given the honorary degree of Doctor of Laws.

At the 58th annual Commencement exercises of Clark University, **Carroll C. Pratt**, chairman of the department of psychology at Princeton University, was awarded the honorary degree of Doctor of Science.

The Vatican announced on May 30 that the Pope had appointed six new members to the Pontifical Academy of Sciences, including **Herbert Sidney Langfeld**, Stuart professor of psychology emeritus at Princeton University. Dr. Langfeld will go to Rome in the winter to accept his appointment.

SSRC's Committee on Social Science Personnel appointed 18 research training fellows. **Joe Kennedy Adams**, PhM, University of Wisconsin, PhD candidate at Princeton University, was appointed in psychology. His research will deal with communication analysis. SSRC's Committee on Grants-in-Aid made the following grants to psychologists: **David P. Boder**, Illinois Institute of Technology, for a study of psychological and anthropological components in personal histories of displaced persons; **J. P. Guilford**, University of Southern California, for a factor analysis of 65 tests developed by the Army Air Forces for the classification of aircrew personnel (renewal); **William B. Michael**, Princeton University, for an investigation of the factorial structure of reasoning, space, and visualization; **Heinz Werner**, Clark University, for completion of experimental studies of semantic and communicative aspects of language behavior (renewal).

Bernard F. Reiss, Department of Animal Behavior, American Museum of Natural History, has been awarded a grant-in-aid of \$1000 by the American Academy of Arts and Sciences for a study of the relation of diet to susceptibility to audiogenic and stress shock.

Income from this source is available for research in any field of physical, mathematical, or social science. An award normally does not exceed \$1,500.

The next meeting of the Permanent Science Fund Committee, in October 1948, will consider applications received up to that time on forms which may be secured from the Chairman, John W. M. Bunker, Massachusetts Institute of Technology, Cambridge 39, Massachusetts.

The Board of Trustees of the Rockefeller Foundation has made a grant to Princeton University of \$45,000 for research on the psychology of perception under the direction of **Carroll C. Pratt** during a three-year period. Certain of the studies will be done in collaboration with Adelbert Ames, Jr., and will make use of apparatus which he has designed at the Hanover Institute.

George Horsley Smith, formerly of Princeton University, has been appointed associate professor of psychology in the Newark College of Arts and Sciences of Rutgers University. He will continue as research associate in the Office of Public Opinion Research at Princeton.

Kendon R. Smith, formerly of Princeton University, will in the fall join the staff of the Pennsylvania State College.

John T. Cowles, formerly director of research of the Air Training Command, AAF, Randolph Field, has accepted a position with the Educational Testing Service at Princeton.

Glenn V. Ramsey, formerly associate professor at Princeton University, will become a professor at the University of Texas beginning with the fall semester. He will have charge of the clinical training program.

Bert F. Green, Jr., formerly a student at Yale University, and **Warren S. Torgerson**, formerly at the University of Wisconsin, have been awarded the first Psychometric Fellowships, established this year by the Educational Testing Service for graduate study at Princeton University. The fellowships, which are normally renewable, provide \$2,200 annually.

P. S. deQ. Cabot has just returned from a trip to Great Britain where he surveyed personnel problems in industry. He has joined the staff of Booz, Allen & Hamilton, 135 South LaSalle St., Chicago, as consultant in personnel relations. Previously he was national director of employment and development for the Rexall Drug Company.

Dr. Cabot was recently given the English award of the King's Medal for Service in the Cause of Freedom in World War II.

Nathaniel L. Gage, at present assistant professor at Purdue University, has accepted a position as assistant professor of education at the University of Illinois, beginning with the fall semester.

Karl M. Dallenbach, formerly of Cornell University, has accepted a position as distinguished service professor at the University of Texas.

Dorothy C. Adkins, formerly head of the Test Development Unit of the Civil Service Commission, has accepted a position as professor of psychology at the University of North Carolina.

Charles Dollard was elected president of the Carnegie Corporation of New York in May. He has been associated with the organization since 1938. Mr. Dollard is also chairman of the Panel on Human Relations and Morale of the Research and Development Board of the Department of National Defense.

The total assets of the Carnegie Corporation are now valued at \$170,322,715. Since, according to its charter, the income is to be used "for the advancement and diffusion of knowledge and understanding", it frequently figures in psychological news.

The Office of Education has set up a "National Clearing House" on information on the social sciences. The director of the new unit is **Claude E. Hawley**, wartime chief under General MacArthur of psychological warfare against Japan. He will be assisted by J. Laurence Phalan, formerly an economics professor of Middlebury College. The section will be staffed, it is planned, by experts in the fields of anthropology, psychology, sociology, history, economics, geography and political science. One of the first functions of the new agency will be to study the relation of atomic development to these subjects.

Leonard Cohen, formerly of the University of Miami, is now professor of psychology at Lincoln Chiropractic College at Indianapolis. He is also lecturing in psychology at Purdue University's Indianapolis Center.

Zed H. Burns, formerly vocational counselor in the Guidance Center at the Alabama Polytechnic Institute and now teaching in the College of Education of the University of Alabama, has accepted ap-



Ralph H. Gundlach

The Western Psychological Association elected Ralph H. Gundlach president for 1948-49.



Lillian G. Portenier

The Rocky Mountain Branch of the American Psychological Association elected Lillian G. Portenier president for 1948-49.

pointment as professor of education at the Mississippi State College for Women.

R. H. Waters has been appointed professor in the department of psychology at the College of Wooster, Ohio. He was formerly professor of psychology at the University of Arkansas.

Murray Sherman has accepted the position of psychologist at Bellevue Hospital, beginning September first. He was formerly psychologist at Harlem Valley State Hospital.

E. Kenneth Carpenter, formerly of the University of Massachusetts at Fort Devens, is the new director of guidance and head of the psychology department at Nichols College, Dudley, Massachusetts.

Thelma G. Alper, formerly lecturer at Harvard University, has accepted the position of associate professor at Clark University.

O. Hobart Mowrer, now director of the Psycho-Educational Clinic at Harvard University, has accepted an appointment as research professor of psychology in the Graduate College of the University of Illinois.

Donald V. McGranahan of Harvard University has been appointed senior social affairs officer of the Department of Social Affairs of the Secretariat of the United Nations at Lake Success. His work will be primarily concerned with research in social science as related to the United Nations.

McEldin Trawick joined the staff of Esso Standard Oil Company as industrial psychologist. He was formerly with the Klein Institute.

Edward S. Bordin resigned from his position at the State College of Washington to accept the position of chief of the counseling division of the University of Michigan's Bureau of Psychological Services and associate professor in the department of psy-

chology. This summer Dr. Bordin taught at the University of Minnesota.

Albert J. Latham of the University of Pittsburgh has accepted an assistant professorship in the department of psychology at the University of Louisville.

Raymond A. Katzell of the University of Tennessee has been appointed associate professor of industrial psychology at Syracuse University.

Thomas W. Kennelly will be associate professor and the new director of the Psychological Clinic which was established last January at the University of Buffalo. Dr. Kennelly has been director of the Research and Guidance Department of the Board of Education of Niagara Falls.

Irvin S. Wolf will join the department of psychology of the University of North Carolina in September 1948. He is now on the faculty at the University of Buffalo.

J. E. Wallace Wallin, retired director of special education in Delaware, upon the conclusion of his visiting professorship in the Milwaukee State Teachers College, will become visiting professor of clinical psychology at Upsala College, East Orange, New Jersey, the twenty-fifth institution in which he has taught.

C. G. Browne has resigned his position as instructor at the Ohio State University and in September will join the staff of the department of psychology at Wayne University as assistant professor, teaching courses in personnel and industrial psychology.

Catherine M. Call, for the last four years a psychologist with the Michigan State Department of Mental Health, will this fall become a mental health consultant at Lansing for the same department.

Carl L. Anderson joined the Mental Hygiene Division of USPHS on July 1 as consultant in clinical psychology, District Office No. 3, Chicago. Prior to this appointment, he was assistant branch chief clinical psychologist of the VA at Richmond, Virginia.

Lawrence A. Riggs, dean of students of Wil-

lamette University, has been named DePauw University's first dean of students. He will be in charge of the student counseling program and will have general oversight of the Placement Bureau, the Bureau of Testing and Research, and the University Health Service.

Martin D. Jenkins, former professor of education at Howard University, Washington, D. C., has been elected president of Morgan State College, Baltimore, Maryland, effective July 1.

John H. Rohrer, professor of psychology at the University of Oklahoma, has recently been appointed director of the University's newly organized Council of Social Research.

Douglas G. Ellson has been named chairman of the department of psychology at Indiana University. New appointments to the staff there include **Irving J. Saltzman**, formerly of Johns Hopkins University, at the rank of assistant professor; **Cletus J. Burke**, formerly of the State University of Iowa, at the rank of assistant professor; and **Emanuel K. Beller**, formerly of the State University of Iowa, at the rank of instructor.

Arthur Lichtenstein, at present associate professor of education and assistant professor of medical psychology at the Johns Hopkins University, has resigned to accept the position of director of special services for pupils in the Baltimore public school system, beginning in September.

Jacob Koekebakker, Director of the Mental Hygiene Division of the Institute of Preventive Medicine, the Netherlands, has been visiting institutions in this country interested in research on social problems in industry.

Olive King Bray has accepted a position as personnel psychologist with the American Friends Service Committee in Philadelphia. She was formerly at Rockford College.

D. W. Harding of Bedford College for Women, University of London, is the new editor of the *British Journal of Psychology* (General Section). He takes

the place of Sir Frederic Bartlett who has retired after twenty-four years as editor.

Philip I. Sperling of the University of Michigan has been appointed to the faculty in psychology at Bennington College, beginning in the fall.

Daniel Robert Miller, formerly Rosenberg Fellow at Stanford University, has accepted a position at the University of Michigan.

DeWitt E. Sell has been appointed professor and head of the department of psychology at Huntingdon College, Montgomery, Alabama.

William C. Biel, formerly of Denison University, is now a research psychologist with the Psychology Branch, Aero-Medical Laboratory, Air Materiel Command, Wright-Patterson Air Force Base, Dayton, Ohio.

Emma Spaney resigned her position as assistant director of the department of measurement and guidance of the National League of Nursing Education to join the department of psychology at Queens College, New York.

William H. Hooper is now a psychologist (Personal Counselor) for the VA Center at Cheyenne, Wyoming. He was formerly with the VA in Denver.

Fillmore Sanford, formerly assistant professor at University of Maryland, will next year go to Haverford College.

Urie Bronfenbrenner, formerly of the University of Michigan, has joined the department of psychology of Cornell University.

Irving Lorge, director of the Institute for Psychological Research of Teachers College, Columbia, has this summer been on the staff of the University of Puerto Rico.

Frances K. Graham, formerly of the department of neuropsychiatry of Washington University, will next year become an instructor at Barnard College.

Paul E. Eiserer has accepted an appointment as

assistant professor of education and psychology at the University of Oregon, beginning in June.

Francis A. Young of Ohio State University and **F. Dudley Klopfer** of the University of Michigan will become instructors, beginning in the fall, at the State College of Washington.

Helmer R. Myklebust, director of research and child study at the New Jersey School for the Deaf, has been appointed associate professor of audiology in the School of Speech, Northwestern University, beginning in July.

Charles E. Hamilton, who received his PhD from the University of Iowa in January, has been appointed assistant professor at Montana State University.

Nathan Israeli has been on leave of absence from the Standards and Special Studies Section, Personnel Classification Division, U. S. Civil Service Commission, to teach at Long Island University for the summer session.

Joseph B. Margolin is doing research in group psychotherapy at the Washington School of Psychiatry. He was formerly with the Montgomery County (Maryland) Mental Hygiene Clinic.

Charles A. Ullmann, formerly of the Personnel Research and Procedures Branch, AGO, has joined the staff of the USPHS experimental-demonstration Mental Hygiene Clinic serving Prince Georges County, Maryland.

Ailene Morris of the University of North Carolina has accepted the position of research psychologist at the US Naval Medical Research Laboratory, New London, Connecticut.

Howard H. Kendler, at present assistant professor of psychology at the University of Colorado, has been appointed associate professor at University Heights College, New York University, beginning in the fall.

Glen Heathers has joined the YMCA National Council at 347 Madison Avenue, New York, to con-

duct a research study of the international relations aspects of the YMCA program. He was formerly with SSRC.

Edna A. Maisner, formerly clinical psychologist with the Ohio State Bureau of Juvenile Research, is now research associate in clinical psychology at the Wayne County Training School.

Ronald R. Greene has been made head of the department of psychology at Ohio Wesleyan University.

Charles H. Toll, professor of psychology at Amherst College, has become professor emeritus.

Karl Kryter, formerly of Washington University, is leaving to head the Psychology Branch of the Medical Section in the headquarters of the Strategic Air Command.

Karl F. Heiser has been appointed to a newly-created position in the office of the American Psychological Association. He will serve as the administrative officer of the Committee on Training in Clinical Psychology. Accompanied in each case by a member of the committee, he will visit the universities offering graduate work in clinical psychology. Two- or three-day visits at each university will allow Dr. Heiser and the committee member time to review their report with the department chairman before they leave the university. On the basis of these reports the Committee will revise the list of approved universities published on page 318. After the new list is prepared, the Committee hopes to establish a policy of reviewing each university only every three or four years instead of every year as it has been doing in the past few years.

The United States Public Health Service has made a grant of \$12,000 to the APA to cover the expenses of the Committee for the coming year.

Dr. Heiser will begin his appointment September 1. Visits to the universities will begin about October 1.

The Research and Development Group, Logistics Division, Department of the Army, has appointed a liaison committee between the American Psychological Association and the Department of the Army on matters of mutual concern. Any branch of the

Army is free to seek psychological advice through this committee. The committee, in turn, is authorized to approach the Army on matters where it believes assistance may be rendered. The members of the committee are: Jerome S. Bruner, Harvard University; Mitchell Dreese, George Washington University; John W. Gardner, Carnegie Corporation of New York; Carl I. Hovland, Yale University; William E. Kappauf, Princeton University; Rensis Likert, University of Michigan; Neal E. Miller, Yale University; Marion W. Richardson, Richardson, Bellows, Henry & Co.; Carroll L. Shartle, Ohio State University; and Dael Wolfe, American Psychological Association, chairman.

Grosvenor B. Pearson, director of the Western State Psychiatric Institute and Clinic, Pittsburgh, has announced the following reorganization of the division of neurophysiology in the Department of Research: Robert A. Patton has been named research neurophysiologist and head of the Animal Research Laboratory. Newly appointed resident fellows are Roger W. Russell, associate professor of psychology at the University of Pittsburgh; John F. Pierce, instructor in electrical engineering at Pittsburgh; Harry W. Brain, lecturer; and Francis J. Pilgrim, student assistant at Pittsburgh.

A research grant of \$6,120 has been received from the USPHS for a continuation of the present research program dealing with the effects of electroshock convulsions on learning and retention in the rat. In addition, a grant of \$5,600 has been received from the Williams-Waterman Fund of the Research Corporation, New York, for the investigation of the effects of glutamic acid and other amino-acids on learning in the rat.

The Catholic members of the APA, as they did last year at Detroit, are again planning a luncheon and meeting during the convention in Boston. The business of this meeting will be the consideration of further steps in the formation of an organization of the Catholic members of the APA. The aim of the proposed organization will be to advance the interests of psychology in Catholic circles.

John D. Coakley, Jesse Orlansky, Ralph C. Channell and Martin A. Tolcott, formerly with the Division of Bio-Mechanics of the Psychological Corporation, have joined the staff of Dunlap, Morris and Associates, Inc. Dr. Coakley will be vice-president and Dr. Orlansky, secretary. The new address of this organization is 10 East 49th Street, New York 17, New York.

The department of psychology at Emory University announces the following appointments: associate professors, James C. Dixon and Sam C. Webb; as assistant professor, William Bevan, Jr.; and as instructor, John E. Muthard.

The University of California at Berkeley had many visiting lecturers this summer, including Norman Cameron, University of Wisconsin; Wayne Dennis, University of Pittsburgh; William M. Lepley, Pennsylvania State College; Gretchen Ann Magaret, University of Wisconsin; Quinn McNemar, Stanford University; Donald Adams, Duke University; Roger Barker, University of Kansas; Allison Davis, University of Chicago; Bruce Fisher, Fresno State College; Thomas M. French, Institute of Psychoanalysis, Chicago; and Robert MacLeod, Cornell University.

The department of psychology of the University of Washington announces the following changes in staff appointments: Sidney W. Bijou, formerly at Indiana University, has been appointed associate professor of psychology and director of the Child Development Clinic. Edmund E. Dudek, formerly at Purdue, has been appointed assistant professor of psychology and director of testing and test research in the university's Division of Testing. Allen L. Edwards has been promoted to professor of psychology. George P. Horton has been appointed executive officer, Department of Correspondence Study, as well as retaining his position in the department of psychology. Kenneth F. Thomson, formerly at Ohio State, has been appointed assistant professor of psychology. Roger Brown Loucks has been appointed executive officer of the department and professor of psychology.

The Personnel Research Section of the AGO has had a number of personnel changes in recent months. Donald E. Baier has been designated chief of the section, replacing Edwin R. Henry, who resigned to

join Richardson, Bellows, Henry & Co., Inc. E. Donald Sisson has been named assistant chief of the section and chief for technical operations and control; Charles I. Mosier has been named chief for research and analysis.

Chiefs or acting chiefs of units are as follows: Hubert H. Brogden, John B. Carroll, Wilton P. Chase, Harry H. Harman, Erwin K. Taylor, Julius Uhlaner, and Louise R. Witmer.

Approximately twenty new professional employees ranging in grade from P-2 to P-5 have been added to the staff of the section.

The department of psychology at North Carolina State College announces the development of an Applied Psychology Laboratory. It will work with the Engineering and Textile schools and other technical departments on problems in applied visual and auditory research, industrial training, analysis of industrial motor skills, and design of equipment. Additions to the staff include Key L. Barkley as professor of psychology and director of the new laboratory, and William Westberg as assistant professor of psychology.

Skidmore College announces the following changes in the department of psychology: Theophile Krawiec will be chairman of the department; Carl E. Smith and Orpha Maust Lough have resigned; Arthur H. Dohlstrom has been appointed assistant professor; Robert Lee Anderson has been appointed instructor; John I. Daniel has been appointed instructor in religion; and Theodora H. Daniel has been appointed assistant in education and psychology.

At its ninth annual meeting in Philadelphia, the Rorschach Institute adopted a new constitution which expands the scope of the organization to include the entire field of projective techniques. Membership is extended to persons qualified in techniques other than the Rorschach method. The name of the organization was changed to *The Society for Projective Techniques and the Rorschach Institute, Inc.* The following officers were elected: Theodora Abel, president; Solomon Machover, vice-president; Edward M. L. Burchard, secretary; Bessie B. Burge-meister, treasurer; Bruno Klopfer, editor; Camilla Kemple, executive editor.

Lloyd N. Yepsen has been named executive vice-president of the American Association on Mental Deficiency. He will have the duties of establishing a central administrative office and the responsibility for coordinating the Association's activities. The address of the new office is Washington Crossing, New Jersey.

The psychology department of the University of California at Berkeley reports that it will probably be able to accept in September, 1948, only a fraction of the new students making application for graduate training in clinical psychology. No one should make plans to enter California's training program without first communicating with the Dean of the Graduate Division in order that assurance may be obtained that the department can accept him.

Errata. The following clerical errors in the 1948 Directory have been reported. Page 68: Alethea Davenport's correct address is 1817 N. 59th St., rather than 181, as printed. Page 331: M. Erik Wright's correct address is 4907 Pierson St. rather than 3907. Pages 346 and 348: Read Tuddenham was omitted from the Associate membership rolls of Divisions 7 and 8. Page 345: Frances Sobel is a Fellow in Division 7. Pages 347 and 348: Howard Spoerl is an Associate rather than a Fellow in Division 8. Page 359: Earl W. Seibert's name was incorrectly listed as a Fellow in Division 17; he is also, and correctly, listed as an Associate. Page 362: Stephen M. Corey is incorrectly listed as a Fellow in Division 20. Page 379: the Pennsylvania Psychological Association was omitted from the list of affiliated societies. The date of affiliation is 1937. Page 392: *East* was left out of East St. Louis as Dr. Menger's geographical location.

The answers to other questions concerning the Directory can be given in general form. There are approximately 800 1948 Associates who were not listed in the 1948 Directory. The Directory was already in press in the time of their election.

Student, State, and Division Affiliates of the APA are not members. The word *member* is reserved for the Associates, Fellows, and Life Members. Therefore the "Alphabetical List of *Members* of the American Psychological Association," as found on pages 1 to 337 of the 1948 Directory, includes no affiliates.

Division Affiliates were not separately listed under the divisions. SPSSI has many members in this class,

but the other divisions of the APA have small numbers.

An Annual Review of Psychology is to be published under the auspices of Annual Reviews, Inc., Volume I to appear early in 1950. The preliminary organization is now complete. Calvin P. Stone and Donald W. Taylor of Stanford University will serve as Editor and Associate Editor, respectively. The Editorial Committee will consist of the following: John E. Anderson, University of Minnesota; John G. Darley, University of Minnesota; Clarence H. Graham, Columbia University; Carl I. Hovland, Yale University; and James G. Miller, University of Chicago.

It is intended that in the new *Review* the editorial policies which govern the *Annual Review of Biochemistry*, the *Annual Review of Physiology*, and the *Annual Review of Microbiology* will be maintained. The subject matter will consist of critical appraisals of research in the major fields of psychology. Subjects of greatest activity will be reviewed annually, while those of lesser activity, together with any topics which encompass small divisions of the field, will be reviewed biennially.

The American Board of Examiners in Professional Psychology, since the publication of its Official Bulletin under date of 1 March 1948, has held two additional meetings, at which diplomas were awarded to 194 candidates. This brings the total number of diplomas awarded by the Board up to 428.

There is published herewith the alphabetical list of all diplomates in the three fields awarded at the April and June meetings. These diplomas have been awarded to the candidates with full waiver of formal examination on the basis of a review of individual qualifications.

The Board has received, as of 1 July, 975 applications under the so-called "grandfather" clauses. A full report of the Board's actions on these candidacies will be given at the September meeting of the American Psychological Association.

In completing its task of reviewing the candidacies of senior members in the professional fields, the Board has found it necessary to establish certain policies about which it believes the APA membership should be informed.

With respect to the matter of endorsement of candidates by colleagues in psychology, the Board has been most gratified by the careful and thoughtful endorsements furnished in the great majority of cases. Two problems, however, have emerged as

matters of Board policy. At the April meeting, it was voted that Board members themselves should no longer serve as endorsers for candidates applying for diplomas. It is our belief that we will maintain greater impartiality if we are not involved in endorsements in individual cases. In the second place, the following motion was voted, also, at the April meeting: "If a candidate furnishes as endorser his immediate superior or a colleague in his department or organization, he must, in addition, furnish an equivalent number of endorsers from outside that department or organization." It was the feeling of the Board that, while endorsements of immediate superiors or immediate colleagues could be most illuminating, additional endorsements would also be valuable in such cases and might forestall any professional difficulties that may arise.

The new application form for the diplomas of the Board will carry the modifications of instructions about endorsements made necessary by these two motions.

Individual diplomates have written in to ask about the policy of publicizing diplomate status in their local communities. It is obvious that legitimate publicity might appropriately be given to diplomate status in view of the general objectives of the APA and this Board. However, it was equally apparent to the Board that any policy regarding publicity should be reviewed in the light of general APA policy. Therefore, at the April meeting the following motion was unanimously passed: "It was voted that a sub-committee of the Board be appointed by the President to draft a policy statement regarding the publicity to be given to diplomate status by individual diplomates of the Board. By this vote, the sub-committee is also instructed to place a draft of its proposals in the hands of Dr. Tolman and Dr. Allport in time for review and incorporation in any reports they plan to make at the September 1948 meetings of the APA."

There is published, also, with this article the official audit of the American Board of Examiners as of 31 December 1947. Publication in the *American Psychologist* was recommended at the April meeting of the Board.

The membership of the APA has continued to be most cooperative in the work of the Board and most patient in awaiting its actions. Members of the Board are deeply grateful for the good-will of the Association and plan to give a more complete

account of their activities at the Boston meetings in September. Copies of the Official Bulletin are still available in the Office of the Secretary-Treasurer for those APA members who were not reached in the complete APA mailing.

BALANCE SHEET

December 31, 1947

Assets

Cash:

Demand deposit in University State Bank, Minneapolis, Minnesota.....	\$13,315.54	
Petty cash.....	15.00	\$13,330.54
Prepaid insurance.....		181.74
Office equipment.....	\$286.24	
Less reserve for depreciation.....	14.31	271.93
Incorporation expense.....		102.60
		<u>\$13,886.81</u>

Liabilities and Reserve

Liability for payroll taxes and taxes withheld from employees.....	\$60.44
Reserve for expenses to be incurred in giving examinations, issuing diplomas, etc. (excess of receipts over expenses for period ended December 31, 1947).....	13,826.37
	<u>\$13,886.81</u>

Statement of Receipts and Expenses

Period from April 23, 1947 to December 31, 1947

Candidacy fees received.....	\$17,275.00
Examination fees received.....	300.00
	<u>\$17,575.00</u>

Expenses:

Office salaries.....	\$1,036.62
Traveling expenses.....	1,729.59
Office supplies and miscellaneous.....	913.39
Telephone and telegraph.....	31.81
Insurance expense.....	18.54
Payroll taxes.....	4.37
Depreciation of office equipment.....	14.31
	<u>3,748.63</u>

Excess of receipts over expenses transferred to reserve for expenses to be incurred.....	<u>\$13,826.37</u>
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Statistical Data

Candidacy fees received (\$25.00 each):	
With applications.....	680
Without applications.....	11
Total.....	<u>691</u>
Examination fees received (\$25.00 each).....	<u>12</u>

(From the audit of Touche, Niven, Bailey & Smart, Certified Public Accountants)

In Volume 3, Number 5, of the *American Psychologist* (May 1948), the American Board of Examiners in Professional Psychology announced the award of its diplomas to 234 members of the APA in the indicated professional specialties. The Board herewith announces the award of its diplomas to an additional 194 members in the indicated professional specialties. These diplomas have been awarded to senior members in professional fields of psychology, on the basis of a review of individual qualifications.

CLINICAL

Abel, Theodora Mead
Achilles, Edith Mulhall
Adams, Clifford R.
Alper, Thelma G.
Anderson, Gladys Lowe
Angyal, Alice F.
Arlitt, Ada Hart
Bacon, Margaret Keller
Ball, Robert J.
Bayley, Nancy
Beechley, Robert M.
Belcher, Esther L.
Bradway, Katherine P.
Brantly, Mary L.
Bridgman, Olga
Brockbank, Margaret
Halleran
Bromberg, Ruth Lambert
Browne, Catherine
Burruss, Genette
Cabot, P. Sidney de Q.
Calabresi, Renata
Castner, Burton M.
Challman, Robert C.
Collier, Rex M.
Colm, Hanna Nicolassen
Combs, Arthur W.
Cooper, Max
Cutts, Norma E.
Dellard, John
Dorcus, Roy M.
Edwards, Frances M.
Eisenson, Jon
Elliott, Merle H.
Elwood, Mary I.
Fairbanks, Grant
Fernald, Mabel R.
Fite, Mary D.
Font, Marion McK.
Franklin, John F.
Frith, Gladys D.
Fromm, Erika O.
Giblette, Catherine T.
Gilbert, Harry B.
Grauel, Claire Kearsce
Hallowell, Dorothy K.
Hamlin, Roy M.
Harris, Daniel H.
Hartman, A. Arthur

Heiser, Karl F.
Held, Omar C.
Hellersberg, Elisabeth F.
Herness, Christina Wright
Holsopple, James Q.
Holway, Amy Richardson
Hovey, Henry B.
Hultsch, Catharine L.
Israel, Hyman A.
Johnson, Wendell
Kammerer, Robert C.
Kendig, Isabelle V.
Kirk, Virginia
Kitzinger, Helen
Klinger, Pauline
Koch, Helen L.
Kohs, Samuel C.
Krugman, Judith I.
Layman, Emma McCloy
Mailloux, Noel
Marshall, Helen
Maurer, Katharine M.
Maxfield, Kathryn E.
McCarthy, Dorothea
McCaulley, Selinda
McDowell, Elizabeth D.
McNeill, Harry V.
Menger, Clara
Meyer, Edith
Mitchell, Mildred B.
Moore, Roland C.
Mueller, Alfred D.
Myklebust, Helmer R.
Newman, Sidney H.
O'Kelly, Lawrence I.
Otness, H. Robert
Page, Marjorie L.
Peatman, Lillie Burling
Perce, Frances Crandell
Peters, Henry N.
Peters, Marie W.
Phillips, Wendell S.
Pruski, Beatrice Candee
Ramsdell, Donald A.
Rapaport, David
Reichard, Suzanne K.
Reichenberg-Hackett, Wally
Reiman, M. Gertrude
Rhinehart, Jesse Batley
Roberts, A. Dudley

Roberts, Katherine E.
Rogers, Lawrence S.
Ross, Robert T.
Rothschild, Mary Lasater
Sanford, R. Nevitt
Scherer, Isidor W.
Schmidt, Hermann O.
Sears, Pauline Snedden
Selling, Lowell S.
Skodak, Marie P.
Sobel, Frances S.
Spirer, Jess
Stauffacher, James C.
Stogdill, Ralph M.
Stone, Robert
Street, Roy F.
Swan, Carla
Tenney, Edward V.
Thompson, William H.
Tomkins, Silvan S.
Troup, Evelyn
Tulchin, Simon H.
Wallace, Ramona
Walters, Sister Annette
Washburn, Ruth W.
Watson, Gladys H.
Watson, Robert I.
Weimer, Clara B.
Weiss, Herman R.
Williams, Gertha
Williams, Griffith W.
Wolpe, Zelda S.
Woods, Elizabeth L.
Wyatt, Frederick
Young, Florene M.

INDUSTRIAL

Bittner, Reign H.
Blum, Milton L.
Bois, Joseph S. A.
Brown, Ralph R.
Burt, Harold E.
Case, Harry W.
Clarke, Walter V.
Cleaton, Glen U.
Crissey, Orlo L.
Dunlap, Jack W.
Henry, Edwin R.
Herrington, Lovic P.
Janney, J. Elliott

Marrow, Alfred J.
McQuitty, Louis I.
Moore, Bruce V.
Mosier, Charles I.
Page, Richard M.
Petrullo, Luigi
Rechetnick, Joseph
Rundquist, Edward A.
Solomon, Richard S.
Taylor, Erwin K.
Thomson, William A.
Tucker, Anthony C.
Uhrbrock, Richard S.

COUNSELING AND
GUIDANCE

Adams, Frederick J.
Arnold, Dwight L.
Averill, Lawrence A.
Barrett, Dorothy M.
Bedell, Ralph C.
Berger, Evelyn Miller
Bond, Elden A.
Brown, Forrest D.
Bryant, Hilda Green
Dreese, Mitchell
Dunlap, James M.
Dysinger, Wendell S.
Evans, M. Catharine
Fouracre, Maurice H.
Hegge, Thorleif G.
Herring, Amanda
Hess, Lawrence W.
Jenkins, Martin D.
Kirchheimer, Barbara A.
Kratwohl, William C.
Larsen, Robert P.
MacKenzie, Barbara Kruger
Peatman, John G.
Porter, Rutherford B.
Rothney, John W. M.
Schubert, Herman J. P.
Scott, Cecil W.
Super, Donald E.
Traxler, Arthur F.
Weitzman, Ellis
Wesman, Alexander G.
Wilson, Milbourne O.
Wilson, Phyllis C.
Wood, Austin B.
Wrightstone, J. Wayne

The Second International Symposium on Feelings and Emotions will be sponsored by the Loyal Order of Moose, with the cooperation of the University of Chicago, on October 28, 29, and 30, 1948. The symposium, under the general chairmanship of Martin L. Reymert, director of the Mooseheart Laboratory for Child Research, is held on the occasion of the twentieth anniversary of the publication, "The Wittenberg Symposium on Feelings and Emotions." A. J. Carlson, professor emeritus of physiology at the University of Chicago, is honorary chairman. The contributors and the titles of their addresses, if already chosen, are listed below.

John E. Anderson, University of Minnesota. *The emotional life of the child during the grade-school period.*

Magda Arnold, Wellesley College.

Samuel J. Beck, Michael Reese Hospital, Chicago. *Emotional experience as a necessary constituent of knowing.*

B. P. Bapkin, McGill University. *Conditioning of the emotions.*

Walter V. Bingham, Washington, D. C. *Emotional aspects of employer-employee relations.*

Trigant Burrow, The Lifwynn Foundation. *Emotion and the social crisis—a problem in phylobiology.*

Cyril Burt, University of London. *The factorial study of emotions.*

Dorwin Cartwright, University of Michigan.

Chester Darrow, Illinois Institute of Technology.

John Elmgren, University of Gothenburg, Sweden. *Sentiments in the light of modern science.*

Franklin Fearing, University of California at Los Angeles.

C. B. Frisby, National Institute of Industrial Psychology, London. *The emotional stress of the foreman in present-day industry.*

Arnold Gesell, Yale University.

R. L. Jenkins, University of Illinois. *Guilt feelings: their function and dysfunction.*

Harold E. Jones, University of California. *The relationship between the overt and implicit expression of emotions.*

David Katz, University of Stockholm. *The thought life of the child.*

Herbert S. Langfeldt, Princeton University. *Feelings and emotions in art.*

George Lawton, New York City.

H. S. Liddell, Cornell University. *Animal origins of anxiety.*

Rensis Likert, University of Michigan.

Donald B. Lindsley, Northwestern University.

Ivan D. London, Northwestern University. *Theory of emotions in Soviet dialectic psychology.*

Jules Masserman, Northwestern University. *A biodynamic approach to the problems of emotion.*

Margaret Mead, American Museum of Natural History.

Albert E. Michotte, University of Louvain, Belgium.

James G. Miller, University of Chicago. *The experimental study of unconscious processes.*

Gardner Murphy, City College of New York. *The irrational in the international picture.*

Henry A. Murray, Harvard University. *The Thematic Apperception Test: method of exposing repressed emotions.*

Joseph Nuttin, University of Louvain. *An analysis of shame in the dynamical structure of personality.*

Oernulv Oedegaard, University of Oslo. *On the psychology of social groups as illustrated by their incidence of mental disorder.*

Henri Pieron, University of Sorbonne. *Sensory affectivity.*

Daniel A. Prescott, University of Maryland.

Curt Richter, Johns Hopkins Hospital.

Anne Roe, New York City. *The use of clinical diagnostic techniques in research with normals.*

Carl R. Rogers, University of Chicago.

Saul Rosenzweig, Western Pennsylvania Psychiatric Institute and Clinic. *Psychometric and projective aspects of the picture-frustration study.*

David Shakow, Illinois Neuropsychiatric Institute. *Some psychological features of schizophrenia.*

Nathan Shock, U. S. Public Health Service.

William Stephenson, University of Chicago. *The significance of Q-technique for the study of personality.*

Robert H. Thouless, Cambridge University. *Affective functions of language.*

Roger J. Williams, University of Texas.

Harold G. Wolff, New York Hospital.

Some of the speakers at the symposium will participate in the University of Chicago Round Table radio broadcast on Sunday, October 31.

The sessions on Thursday, October 28, will be held at Mooseheart, Illinois, and the sessions on Friday and Saturday, October 29–30, at the University of Chicago. All sessions of the conference will be open to those interested. There will be Open House for all who wish to visit Mooseheart, the City of Child-

hood, on Wednesday, October 27, and Sunday, October 31. Participants will be given gratis transportation between Chicago and Mooseheart. Information concerning hotel accommodations and other matters may be obtained by writing to Dr. Reymert.

The annual meeting of the Psychological Association of the Province of Quebec was held in May at Sir George William's College, Montreal, Quebec. During the all-day conference and at the general meeting held under the chairmanship of the president, J. S. A. Bois, 120 members and guests were present.

The secretary reported a current membership of 196 members, 43 of whom had joined in 1947-48. Six regular meetings were held with Otto Klineberg, N. Mailloux, L. T. Dayhew, J. S. A. Bois, Renatus Hartoggs, Robert B. MacLeod, B. R. Philip, and Irene Sesine of the Institut National d'Orientation Professionnelle de Paris as guest speakers.

During the past year the Association had considered the questions of certification of psychologists, professional advertising, and affiliation with the Conference of State Psychological Associations. It published a series of most effective occupational outlines, and established a panel of speakers on psychology for the use of radio stations, clubs, etc., whose members gave a total of 78 addresses before local organizations during the year.

A recommendation was forwarded to the annual conference of the Canadian Psychological Association asking that a national Board of Certification be created separate, with independent finances, from the Canadian Psychological Association, but to be sponsored by it following the example of the APA and the American Board of Examiners in Professional Psychology.

The following were elected to office for 1948-49: Robert B. Malmo, president; Blaise Laurier, vice-president; Douglass Burns Clarke, secretary; Jean Marc Chevrier, associate secretary; Rosalie Sofin, treasurer; Frances Alexander, chairman of the Committee on Training and Certification; D. O. Hebb, chairman of the Committee on Research; J. Tuckman, chairman of the Committee on Publications; Aurele Gagnon, E. C. Webster, Jean Marc Chevrier, Douglas J. Wilson, Gilles Y. Moreau, H. E. Lehmann, J. Tuckman, and Gaston Gauthier, members of the Committee on Training and Certification.

The Ohio Psychological Association unanimously

approved by-laws setting up a Board of Examiners of Psychologists in Ohio at its spring business meeting. Until the Association has had an opportunity to examine the operation of these by-laws in practice, the certification of psychologists will be on a voluntary basis.

The Association elected the following officers for 1948-49: Clarence Leuba, president; George A. Kelly, president-elect; Ruth Ortleb, secretary; and Victor Raimy, treasurer.

The Pennsylvania Psychological Association held its annual meeting in Harrisburg on May 1. A symposium on "Personality Theory and Clinical Practice" had Saul Rosenzweig for chairman. Participants were Anne Roe, from the standpoint of psychodiagnosis; William U. Snyder, from the standpoint of counseling; and Joseph Zubin, from the standpoint of systematic research.

The Association elected the following officers for 1948-49: Mildred L. Sylvester, president; Bruce V. Moore, president-elect; Esther Katz Rosen, secretary; and Wayne Dennis, treasurer.

Recent Developments in Psychology in Germany. Ernst Bornemann writes that in 1947 a Research Society for Practical Psychology (Studiengesellschaft für praktische psychologie) was founded at a meeting in Bad Pyrmont. The secretary of the organization is Dr. Dogs, Rammelsbergerweg 26, Goslar; the president is Professor Dr. Störing of the psychiatric clinic in Göttingen; the vice-president is Professor Dr. Hische, Hannover. The society is strongly supported by physicians interested in psychotherapy and is planning to publish its own journal.

German journals about to reappear are the *Psychologische Forschung*, with Professor von Allesch, Göttingen, as editor, and the *Zeitschrift für Psychologie*. The one journal which is already being published is *Psyche*, which is devoted to depth psychology; it is edited by H. Kunz, Basel; A. Mitscherlich, Heidelberg; and F. Schottlaender, Stuttgart.

The Deutschen Gesellschaft für Psychologie will hold its 17th Congress at Göttingen on September 26 through 29. Morning and afternoon sessions will consist primarily of the presentation and discussion of papers. Evening symposia will discuss "Antrieb und Willie" and "Charakterologisches."

The Personnel Research Section, AGO, now has

funds available to contract for psychological research in certain areas of personnel psychology. Contracts can be made with universities and other research agencies; they will provide that not to exceed 10% of the total sum can be paid to the designated director for actual supervisory planning in connection with the project. The remainder will be spent for junior professional and clerical services, supplies, travel, equipment, etc., as mutually agreed upon. Those interested should write The Adjutant General, attn: AGPP-L, Department of the Army, Washington 25, D. C.

Psychologists, U. S. Naval Reserve. Commissions are now offered for psychologists by the Medical Service Corps of the U. S. Naval Reserve. The candidates must meet the usual Navy requirements. Rank is dependent on age, qualifications, and academic seniority; for example, applicants in the age group 21-32 must hold a PhD to be qualified for Lieutenant (jg).

Persons holding reserve commissions in the line or staff corps of the Navy may request reclassification to the Medical Service Corps, Reserve.

The present law authorizes such officers to take two weeks of training duty annually, with full pay and allowances commensurate with their rank. This duty is not required in order to maintain status in the Naval Reserve, but is entirely voluntary.

In the event of mobilization, reserve officers in this category are assured of a billet in their professional field, in this case, either Aviation, Clinical, or Experimental Psychology. Retirement benefits also accrue.

The local Office of Naval Officer Procurement will furnish more information.

Fellowships, USPHS. The U. S. Public Health Service will award a limited number of mental hygiene research fellowships to psychologists for graduate work in fields related to mental health. The categories are as follows: (1) Predoctoral research fellowships, tuition also paid: (a) \$1,200 for AB's, no dependents; \$1,600 for AB's, dependents; \$1,600 for MA's, no dependents; \$2,000 for MA's, dependents; (2) postdoctoral research fellowships, no tuition paid: \$3,000 for PhD, no dependents; \$3,600 for PhD, dependents; (3) special research fellowships, no set award; awarded to applicants who qualify for postdoctoral fellowships and in addition have demonstrated outstanding ability or who have specialized

training. For information, write Division of Research Grants and Fellowships, National Institute of Health, Bethesda 14, Maryland.

Clinical Psychologists, New York. Two Civil Service openings for psychologists are available at the P-4 grade, \$4900 per year, at Canandaigua. In addition to working in a neuropsychiatric hospital, they will assist in training psychologists, or can carry on research, or receive advanced training themselves. Apply to Dr. Syvil Marquit, Chief Clinical Psychologist, VA Hospital, Canandaigua, New York.

Clinical Psychologist, New York. A vacancy exists for a senior psychologist at Grasslands. Salary: from \$2910 to \$3750 plus \$705 cost of living bonus, no maintenance. For further information write Fred V. Rockwell, Chief Psychiatrist, Psychiatric Institute, Grasslands Hospital, Valhalla, New York.

Clinical Psychologists, Bellevue. Beginning September 1, there will be openings for several provisional appointments for psychologists at Bellevue Psychiatric Hospital. Beginning salaries are \$3250. The term "provisional" means that applicants will have to pass a Civil Service examination at some future date for permanent appointment. Requirements are three years of clinical experience and either an MA or two years of graduate work in psychology. Apply to Dr. David Wechsler, Chief Psychologist, Bellevue Psychiatric Hospital, 30th Street and First Avenue, New York 16, New York.

Clinical Psychologist, Cincinnati. A clinical psychologist with a PhD is needed for the Department of Psychiatry, College of Medicine, University of Cincinnati. Duties include diagnostic studies by objective and projective techniques and the supervision of psychology students in both applied work and graduate research. Opportunities for research are available. Apply to Dr. Virginia T. Graham, Chief Psychologist, Central Clinic of the General Hospital, Cincinnati 29, Ohio.

Clinical Psychologists, Ohio. Two Civil Service positions for psychologists are open in Hamilton, Ohio. A chief psychologist, who must have a PhD, obtains \$4023; an assistant psychologist obtains \$3550; both have retirement benefits. The clinic receives referrals from various agencies, private

physicians, and from the public school system, and ties in with the mental health program of Miami University. Apply to Dr. Louis N. Gould, Director, Lower Miami Valley Guidance Center, 25 North "B" Street, Hamilton, Ohio.

Clinical Psychologist, Ohio. Place: a receiving hospital for treatment of incipient and acute mental illness. Salary range: \$3,000 to \$4,000, depending upon experience and qualifications. The person accepted would be certified under Civil Service, State of Ohio, as a permanent employee. Requirements: graduate degree and experience in the psychiatric and mental hygiene field. Apply to Dr. E. E. Elder, Superintendent, Youngstown Receiving Hospital, Youngstown, Ohio.

Child Psychologist, California. Needed, a psychologist for a child placing agency, preferably one with experience in infant testing. Write Children's Home Society, 645 A Street, San Diego 1, California.

Clinical Psychologist, Connecticut. Needed, a clinical psychologist for various duties, including direction of a Behavior Clinic, the Out-Patient Clinic, the psychological research program, and the training of interns in a hospital for mentally defective and epileptic individuals. Salary, minimum \$3180 plus \$318 bonus; maintenance can be obtained for \$316. Write Dr. Milton Cotzin, Director of Psychological Services, Southbury Training School, Southbury, Connecticut.

Research Psychologists, Florida. There are still several Federal Civil Service openings for psychologists at the Naval Air Station. Those interested should write Captain Ashton Graybiel, Coordinator of Research, School of Aviation Medicine, Naval Air Station, Pensacola, Florida, or Dr. Howard E. Page, Research Psychologist, Staff, Chief of Naval Air Training Naval Air Station, Pensacola, Florida.

Industrial Psychologists, New York. Applications for positions in industry are now being accepted at Richardson, Bellows, Henry & Co., Inc., to fill openings in client organizations and to meet their own expansion needs. Apply to Richardson, Bel-

lows, Henry & Co., Inc., 224 East 33rd Street, New York 16, New York.

Graduate assistantships and stipend scholarships, Pennsylvania State College. In connection with the Instructional Film Research Project, which has a contract with the Office of Naval Research, various appointments are possible. Minimum requirement: candidacy for the MA. Those interested should write Dr. C. R. Carpenter, Instructional Film Research Project, 307 Burrowes Building, State College, Pennsylvania.

Postdoctoral research and training in non-directive psychotherapy. A postdoctoral program in client-centered therapy is available for a limited number of qualified persons. The University of Chicago will waive tuition fees; various forms of financial support are potentially available. Requirements: PhD or MD, age under forty, training in relevant fields. For further information, write Dr. Carl R. Rogers, Executive Secretary, The Counseling Center, University of Chicago, Chicago 37, Illinois.

Want Ads for Out-of-Print APA Journals. Please correspond directly with the advertiser. A fair price is double the issue price.

Laurance F. Shaffer, Dept. of Guidance, Teachers College, Columbia, New York 27, N. Y., wants J. abnorm. soc. Psychol., V. 36, #2, April, 1941.

Sister Anne Cawley, Mount St. Scholastica College, Atchison, Kansas, wants Psychol. Abstr., V. 2, #13, 1928 (Index).

R. H. Shevenell, L'Institut de Psychologie, de L'Universite d'Ottawa, Avenue Laurier Est, Ottawa, Canada, wants:

J. appl. Psychol., V. 20, #5, Oct., 1936, and V. 23, #2, Apr., 1939.

J. consult. Psychol., V. 7, #1, Jan-Feb., 1943.

J. abnorm. soc. Psychol., V. 17, #4, Jan.-March, 1923; V. 18, #2, July-Sept., 1923; V. 21, #3, Oct.-Dec., 1926; V. 22, #3, Oct.-Dec., 1927; V. 23, #2, July-Sept., 1928; V. 23, #3, Oct.-Dec., 1928; V. 35, #2, Apr., 1940; V. 36, #1, Jan., 1941.

Psychol. Bull., V. 5, #2, Feb., 1908; V. 5, #6, June, 1908; V. 7, #4, April, 1910.

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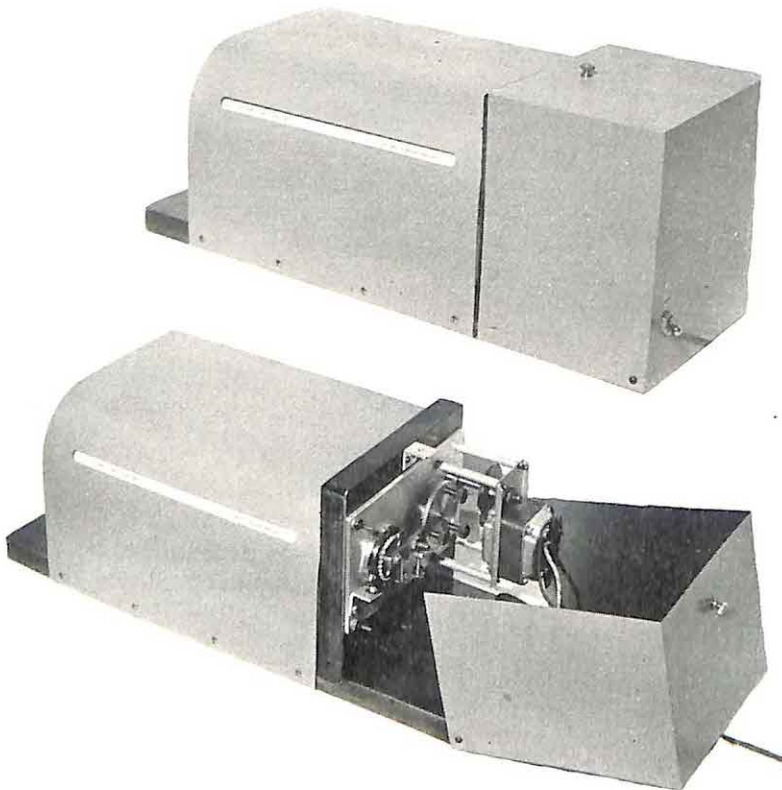
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THE PROFESSION OF PSYCHOLOGY AS SEEN BY A DOCTOR OF MEDICINE¹

ALAN GREGG

The Rockefeller Foundation

MINDFUL of the fact that honors are often bestowed with more of generosity and hope than of discernment and justification, I must further qualify my gratitude for the honor of addressing you on Psychology as seen by a Doctor of Medicine, with the declaration that I have no mandate from my medical brethren to speak for them nor are my views to be taken as the views of the majority of medical men. They may be: I have no basis for implying that they are. Oscar Wilde, I believe, observed that all criticism is a form of autobiography. Perhaps my only experience that in any appropriate manner or measure may qualify me to speak of a physician's view of Psychology was a share in the preparation of the report of the Harvard Commission on *The Place of Psychology in an Ideal University*. It was a commission in which the Doctors of Medicine were outnumbered 9 to 3 and, therefore, they may be suspected of having accumulated a few of what the French call "pensées d'escalier"—the things you wish you had been bright enough to think of at the proper time instead of their coming to mind only as you descend the stairs after the affair is all over.

Let us lose no more time, however, in getting around to talking about a most interesting subject—your own profession. Since there seems little or no evidence that either my profession or yours is prepared to absorb the other, any discussion of the relationships of Medicine and Psychology naturally turns to the consideration of what they have in common, what each possesses uniquely, and what may be available for export and import to and from each other.

Psychology as a profession is young. Now it is notoriously difficult to apprise Youth of the delights of being young. So Medicine might well envy Psychology its present freedom to chart its course, make its promises and find its friends. "Never forget", wrote Wordsworth to Lady Beaumont, "that

every great and original writer in proportion as he is great and original must himself create the taste by which he is relished."² As psychologists you are in the enviable position of having a similar freedom to create the taste by which your work is to be relished. You can deliberately create the demand for what you have learned how to do, after you have learned how to do it. Medicine has so often had to follow another sequence—surrounded from the first by sufferers demanding relief from pain or disease and even with death itself plucking at the doctor's sleeve, we have had to find out how to meet an already existing demand. In the main the psychologist does not work in the atmosphere of crisis—birth, terrifying weakness or the fear of death. Does your freedom from such tensions cheat you of a certain stern discipline that is salutary? Since you are spared the contagious anxiety of dependent patients, will you feel any gratitude for that dispensation? What form might such gratitude take? Is it reasonable to ask how will you spend this magnificent leisure?

Medicine might naturally envy another consequence of the relative youth of Psychology—though perhaps not for long. The established facts and the desirable skills in Medicine have become perplexingly numerous: medical education is now overloaded with the task of imparting so much that is already known and known to be valuable. In Medicine, for example, morphology plays a relatively larger role than I suppose it plays in Psychology, and I do not see the analogue in Psychology of the demand in Medicine for a knowledge of parasites and other invading organisms. Your energies, like those of the physiologists, can and do go admirably deeper into the formulation of theories to explain function. I do not think that your task is the easier: indeed, like youth, you have even more occasion for wisdom because your course is still within your control.

To pass from envy to admiration, the more re-

¹ Special address given by invitation of the American Psychological Association at Boston, September 8, 1948.

² Memorials of Coleorton. Edited by William Knight Douglas. Edinburgh, 1937. Vol. 2, p. 17.

flective physician finds the horizon of the psychologist refreshingly wide in its inclusion of man's social relationships and his societal behavior. Only recently has any comparable interest in social medicine found explicit academic support—the Chair of Social Medicine at Oxford. Parenthetically one should remember that Social Medicine is not to be confused with socialized medicine. You have a wonderfully wide expanse ahead in social psychology. To an admirable degree Psychology has insisted that the trees shall obscure neither its forest nor even its horizon.

No less admirable has been the example set by psychologists in one of the general problems of science—the problem of the observer. If sophistication ever can be refreshing, the sophistication of the psychologist in allowing for the individual observer's reaction time, his inadvertences, his distractions as a witness, and his flaws of memory, is a refreshing sort of sophistication, well worth further refinement and spirited insistence. Medicine has much to learn from your new contributions to the problem of the observer.

Because Psychology takes experience as well as behavior and thinking as its province, it places a valuable emphasis upon narrative as well as descriptive exposition. Possibly the present wealth of laboratory tests has led the doctor too far away from the narrative form: certainly most of today's doctors know what tests to ask of the laboratories better than they know how to elicit really adequate histories from their patients.

From Psychology, Medicine could learn that statistical analysis offers the only scientific correction of variables that mislead the naive suggestibility of a prejudiced observer. Phenomena vary with a sort of Brownian movement; only statistical critiques will prevent a similar Brownian movement among the saltatory little explanations of varying phenomena. Not only in the critical interpretation of variant data but also in the creative task of eliciting answers from experiments you are adroit. Medicine, and particularly Psychiatry, could well look to Psychology for skill in designing conclusive experiments and match your insistence upon the importance of explicit and predetermined methodology in experimental work. I do not happen to believe that experimental verification is the only hallmark of dependable scientific hypotheses. Where would geology and astronomy be without the alternate test of hypotheses—the validation that comes from the ful-

fillment of accurate prediction? But I do happen to believe that psychologists have a signal opportunity to teach doctors by example and by precept how to formulate and test hypotheses regarding the phenomena of human behavior.

The late Douglas Singer suggested that in the course in physiology for medical students at the University of Illinois, after the physiology of various organs and organ systems had been presented, there should be at least six lectures on the physiology of the organism as a whole. These lectures could begin with tropisms, pass to certain patterns of instinctive behavior and perhaps end with considering the integrative rôle of emotions, learning and memory. The modest *raison d'être* of such lectures was the assumption that in addition to the physiology of various organs there is truly a physiology of our old friend, the organism as a whole. The very novelty of that suggestion to most physiologists points to the likelihood that Medicine could profit from more of the integrative view which you psychologists have long taken. Indeed your view has been so comprehensive that you have accepted irrational behavior as part of significant reality. In this you have furnished Medicine with a splendid example and a new province to explore—I say *new* because so many doctors if given to translate the dictum, "*nihil humanum alienum mihi puto*", would be disposed to render it as "nothing that belongs to the alienist do I think of as human." I should like to see all doctors who believe they understood the implications of Sherrington's illuminating title, "*The Integrative Action of the Nervous System*", reflect for, say, five whole minutes on the integrative effect of a knowledge of modern psychology.

Not only can Medicine learn from Psychology; it already depends on the psychologists for help and expects confidently that you will be able to extend and perfect this help. I refer, of course, to the task of selecting medical students and the psychological testing of patients. When an American medical school of not exceptional distinction has to select 72 first year students from 1,205 applicants—a situation recently described to me—you can realize that Medicine is in a position to welcome any aid it can receive in the selection of its future practitioners, investigators and teachers. Psychiatrists of any competence realize that your aid in the appraisal of their patients is already indispensable. And I think you may as well delicately realize that the collaboration of a well-trained psychologist helps to

temper and balance the judgment of the psychiatrist and so protects him from the possible abuse of his highly concentrated power over the lives of others.

One more contribution of Psychology to Medicine deserves emphatic mention: medical education is a form of education, not a mere initiatory apprenticeship. As I am convinced that the contribution of Psychology to education will be one of the greatest benefits it could confer, so I am convinced that quite apart from clinical psychology, Medicine will profit by the changes Psychology can bring in medical education, that extraordinarily intimate blend of acquiring knowledge by experience as well as by the written and spoken word. We know too little of the wisest forms of teaching Medicine. Can you help us?

Now in interprofessional relationships it is manifestly more blessed to be accused of giving than it is to prepare one's self to receive what the other profession may offer. And the task of describing what Medicine might be able to contribute to Psychology becomes more delicate when I reflect how hard it is to communicate the best of what Medicine can offer even to our medical students and our patients, and in what short supply we stand of such advantages as might be worth offering you.

Without doubt the medical profession can draw upon a long experience as a profession. So can most of the major religions. In neither case is mere age a guarantee of excellence, though it does suggest vitality. Besides, long experience is of less import in an adaptive society than it would be in a society governed by tradition and undisturbed by change. Probably as the application of Psychology increases in range and effectiveness, psychotechnologists, clinical psychologists and others who apply Psychology to various human activities will increase in numbers and in status. Indeed problems of training and licensure already press upon you. But you will have other professional problems, of professional organization, of ethical codes, of professional behavior, of professional self-government, of disbarment, of recruitment, certification, of institutional management, and of your status in society at large. In such matters I would suggest that a comparative study on your part of medical, legal, educational and religious professional associations and their methods of solving given problems would now be of considerable value to your rapidly growing profession. Rapid growth is not always accompanied by rapid or effortless maturing.

A generation ago Dr. Abraham Flexner set down certain criteria for judging whether an occupation has attained professional status or not. According to his interpretation of the professions: (1) they involve essentially intellectual operations accompanied by large individual responsibility; (2) they are learned in nature, and their members are constantly resorting to the laboratory and seminar for a fresh supply of facts; (3) they are not merely academic and theoretical, however, but are definitely practical in their aims; (4) they possess a technique capable of communication through a highly specialized educational discipline; (5) they are self-organized, with activities, duties and responsibilities which completely engage their participants and develop group consciousness; and finally (6) they are likely to be more responsive to public interest than are unorganized and isolated individuals, and they tend to become increasingly concerned with the achievement of social ends.³

One aspect of the medical practitioner's daily experience is, I am almost sure, worth passing on to you. In the constant obligation to give a prognosis as well as a diagnosis, Medicine has an experience to offer whose effect escapes too often the attention it deserves. No other professional men seem quite so steadily expected to call the turn of coming events as are the Doctors of Medicine. This obligation has a special effect upon those who meet it. For the use of these branches of Psychology that do not employ exclusively the experimental method, I would think it particularly valuable for you to insist on a much more frequent and detailed exercise of the faculty of prognosis. Certainly I can testify to the sobering and the clarifying effect of this practice in the lives of medical men. Nothing else quickens one's interest in the subsequent history of a disease and alerts one's attention to the operating factors controlling any single case as does the obligation to forecast its future course. From the side of Medicine I would call the attention especially of social psychologists to the heuristic value of the act of prognosis. Like betting, prognosis does not control the event, but it does increase one's interest in all that enters into the final outcome.

More important, however, than the clinician's obligation to give a prognosis is his characteristic task of discovering, assembling and weighing heterogeneous evidence. You are probably familiar with

³ Is Social Work a Profession? in *Proceedings of the National Conference of Charities and Correction*, 1915, 578-581.

the remark that performing an experiment is cross-examining Nature, but first-rate clinical observation is overhearing Nature babbling to herself. No person of experience would deny that priceless surprises may be received by overhearing—hints, suggestions, cues so gloriously new that no cross-questioner could have imagined them. No doubt that to be a discovering listener requires exquisite sensitiveness and a lovely freedom of imagination. But it is so evident that what you know or think obscures and limits what you can observe, that I plead with you to regard the amazing receptivity of the clinician at his best. I plead with you because I believe that the greatest handicap to the study of human beings is unconscious preconceived notions. Many a hypothesis is accompanied by preconceived notions, and these may dull our general perceptiveness and blind us to the context and the circumstances of the event observed. And I plead with you because of the defect of your excellent quality of preoccupation with hypotheses. You are likely to suffer from this preoccupation, for which the clinician's apparently unorganized sensitiveness to *all* the circumstances and to the unexpected, is the only safeguard. Young sciences suffer from such preoccupation, while old sciences profit from contemplating stubborn, disconcerting, unexpected, disorganized facts.

Clinical experience and responsibility creates a unique and ineradicable imprint that deserves your attention. It takes no more than a few months for a young doctor to acquire a new picture of himself. He finds both that he is considered responsible and that he *is* responsible for human conduct and his patients' lives. It is the most unforgettable experience. I have wondered sometimes if psychologists ever undergo as impressive an experience when they are preparing themselves to deal with human beings. Sooner or later, with better reasons or worse, the young doctor is faced with the responsibility for a death, or a life of invalidism, that need not have occurred. The Greeks knew that there were only two kinds of people who could kill human beings with impunity—doctors and judges. So grave and at times paralyzing is this burden of medical responsibility that I would hope that clinical psychologists for their peace and freedom of mind will never have to face it, but they will none the less have its analogue in the responsibility they share for the happiness and health of patients. Let them realize from early on that an obsessive search for the causes of a symptom is not always enough. They

may find it wiser, as Whitehorn says, to find the meaning of a symptom rather than to find its causes.

Another implication of dealing with patients can be borrowed from the experience of Medicine. It is none too common in Medicine and it is perhaps more prevalent in Psychology than I have had occasion to remark. I refer to the opportunity in therapy to evoke a patient's unused or undiscovered potentialities. Certainly this marks much of the work of psychologists engaged in guidance and counseling. Such liberation of the energies and enthusiasm of others by means of psychological knowledge can occur outside as well as inside the consultation room or the hospital ward, and consequently the applications of Psychology can have the cheerful atmosphere of hygiene and healthy growth. In Medicine, the pediatricians have, par excellence, a heartening satisfaction in witnessing the *vis mediatrix naturae*. I hope psychologists may know in ever increasing measure the delights of finding out how to heighten the pleasures of being alive. Perhaps you are beyond the rest of us qualified to learn and teach what makes for sound and exuberant living.

So much for what Medicine might offer to Psychology. I now come to one point on which I question some of the phenomena to be observed in the present rapid growth of Psychology. Quite simply stated, I think you have already reached the point where the degrees of A.M. and Ph.D. do not provide the breadth or availability of training appropriate to the status that laymen accord your practical services. The number of posts opening to psychotechnologists or clinical psychologists and the nature of that work calls for a type of training that society will be likely to accept from other quarters if you do not anticipate society in the matter. What society will require is a form of training and a recognizable title that is a guarantee not of profound erudition or exceptional specialized knowledge but of reasonable and general competence and good character, a training and title comparable to that obtained as a prerequisite to the practice of medicine or engineering. I doubt whether the proficiency in research at present called for by the degree of Ph.D. is the best training for as large numbers of psychotechnologists as will meet the rapidly mounting demand for such services. I simply doubt whether research ability of an order appropriate for the Ph.D. degree exists on so large a scale. If it does not and you insist on all students having the research training appropriate for teachers and in-

vestigations, the quality of psychological research will suffer. Doubtless many students participating in well-oriented and well-controlled research work at the Ph.D. level might profit from it in some measure but the demand is for very large numbers of persons with general practical experience and reasonable competence. Not much more than ten per cent of medical students are capable at any time of excellent research work. Yet medical research flourishes. Furthermore I doubt if Psychology will be given in any university the place it deserves until the university by meeting the need for psychotechnologists gets into a position to feel the strength of that demand. It is the need for doctors, not teachers and investigators, that has given medical schools their claim on university support. I believe in the Ph.D. degree but I think it will certainly be diluted seriously if all the psychotechnologists we need are obliged to get it.

And now having noted what Medicine and Psychology could offer each other, let us turn to what they have in common.

Like various branches of Medicine that started as merely descriptive sciences, later to become preoccupied with etiology and problems of causation, and at long last turning to what I would call the evocative—evoking all their knowledge for positive health as well as the prevention or alleviation of disease,—the different branches of Psychology are on their way in what seems to me a similar series of developments. In putting into effect recommendations for the clinical or interne year of training, Psychology will share with Medicine the extraordinary stimulus of the hospital experience. In the quantity of hospital work, in its variety brought out by easy and constant comparisons, and in the variety of problems posed, the hospital has tremendously influenced the teaching and the growth of Medicine—and its popular support. I would predict a similar result for the interne year on the profession of Psychology—including popular support and understanding.

Nor can one imply that what we have in common is

all satisfactory. We share some defects too. Medicine and Psychology share a neglect of genetics which is perhaps best described by saying that they seem to think that heredity is a study of one's uncontrollable ancestors whereas it is one of the few fields that offers any dependable control over one's descendants. Our failure to understand events in Europe is due in part to the fact that few in this country seem to realize that the greatest losses of the last two wars are genetic. Such losses do not affect the past. They affect the present and future. When will the gene-determined aspects of behavior come in for proper attention? In my opinion we grossly underestimate the importance of hereditary factors in human behavior, as well as in human medicine.

And in all humility we must admit to a common and a general fault. Both Medicine and Psychology should accept their share of the besetting sin of the scientific mind, namely that it believes that the equation it writes to represent reality contains all the factors that are involved. I think that the equation $A + B = C$ should be written A (plus x or minus y) plus B (plus s or minus r) = C (plus q or minus z). Or in more literary and familiar terms, "There are more things in heaven and earth, Horatio, Than are dreamt of in your philosophy." In short, we must be forever on the alert for the hidden factors that may be in our equations. We need a feeling for context.

Lastly, Psychology as well as Medicine must realize this inescapable sequence: study discovers knowledge, knowledge brings power, power entrains responsibility, and responsibility must be prepared to survive praise or blame, dependence or passionate resentment. One can see this sequence in history of physics, from Archimedes to the atomic bomb: study, knowledge, power, responsibility. If this is the sequence in our knowledge of the physical world, can we expect the history of Psychology to follow a different course? I think not. It may be a tragic history or it may be magnificent. Whatever its future may be, Psychology will sooner or later have to face the responsibility that comes from power.

PSYCHOLOGICAL IMPLICATIONS OF FACTOR ANALYSIS¹

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FACTOR analysis originated in an epoch-making paper by Spearman in 1904. Spearman probably saw important implications in that paper but it seems doubtful whether he could have realized at that time the superstructure that was to be built on his first observations on what he called hierarchy. For a quarter of a century the journals were full of controversy about Spearman's single-factor theory of intelligence. His hypothesis and his uni-dimensional methods were extended to the n-dimensional case in 1930. In the last seventeen years, multiple-factor analysis has seen a very fast development so that even in this short period there have been published several thousand papers on multiple-factor theory and experimental results.

Our purpose here is to review some psychological implications of multiple-factor analysis and to make only incidental reference to the factorial methods as such. It is time that we take stock more frequently of how the factorial methods are affecting psychological concepts, and how these in turn affect the development of appropriate factorial methods. It should be emphasized that factor analysis is a scientific method that must be adjusted to each problem. It is not merely a statistical method, and it is not a routine that can be applied fruitfully to every correlation table in sight.

In the light of a good deal of experience with the factorial methods, we should be able to give students a few practical suggestions. In the Psychometric Laboratory at Chicago, we spend more time in designing the experimental tests for a factor study than on all of the computational work, including the correlations, the factoring, and the analysis of the structure. If we have several hypotheses about postulated factors, we design and invent new tests which may be crucially differentiating between the several hypotheses. This is entirely a psychological job with no computing. It calls for as much psychologi-

cal insight as we can gather among students and instructors. Frequently we find that we have guessed wrong, but occasionally the results are strikingly encouraging. I mention this aspect of factorial work in the hope of counteracting the rather general impression that factor analysis is all concerned with algebra and statistics. These should be our servants in the investigation of psychological ideas. If we have no psychological ideas, we are not likely to discover anything interesting because even if the factorial results are clear and clean, the interpretation must be as subjective as in any other scientific work.

Another hint for the student is that he usually tries to accomplish something too ambitious in his first factorial studies but that is also typical in the formulation of other thesis subjects. A factorial study is more likely to give convincing findings if it covers a restricted domain with only enough measures of known factorial composition to serve as a linkage between the factors that are already known and the factors that we hope to discover or isolate.

Most of the factorial studies that have been done so far have been concerned with the cognitive domain. Previous work had discovered a number of group factors such as the verbal, the numerical, and the visual. These were more clearly revealed by the more powerful multiple-factor methods. The further breakdown of the cognitive intellectual functions into primary factors has revealed that the cognitive field represents a large number of functional unities or factors. We no longer speak of "the" verbal factor as if it were unitary. At least three verbal factors are known and several additional verbal factors are clearly indicated. One of these verbal factors has been denoted V and it represents facility in understanding verbal material. Another verbal factor has been denoted Word Fluency W and it represents facility in finding words to represent restricted context. A third verbal factor F represents ideational fluency with words. There is indication that a naming factor exists which is independent of the three

¹ Presidential address, American Psychological Association, Division on Evaluation and Measurement, Detroit, September 9, 1947.

that have been mentioned. In some forms of aphasia we seem to be dealing with patients who have one or more of these verbal factors intact while they are lacking in other verbal factors. Without understanding the differences between the several distinct verbal factors, one is at a loss to understand why the patient can do certain verbal tests while he fails on other verbal tests. This field should be experimentally investigated more intensively in the light of factorial results.

The ability to memorize has been found to be a primary factor that is independent of other cognitive functions. Incidental memory seems to be an ability that is distinct from the ability to memorize intentionally. There is good indication that auditory memory is not the same ability as visual memory.

One of the most important of the primary abilities is that of visualizing space which has been denoted the Space factor S. It is involved in all thinking about solid objects and flat objects in space.

The perceptual functions have been broken down into a number of distinct primary factors. Among the most interesting are those which represent facility in perceptual closure in which there are very large individual differences. Perceptual closure has been found in a battery of visual tests and also in a battery of twenty-eight auditory tests that were specially designed for factorial analysis. It is a curious circumstance that we do not yet know whether the closure factor in visual material is the same as the closure factor in auditory material. In order to solve that problem, it will be necessary to include both visual and auditory tests of closure in the same factorial analysis. It will then be interesting to ascertain whether perceptual closure is a primary factor that transcends the visual and auditory modalities. If so, then closure is a central factor that may be of considerable importance in the human intellect. On the other hand, it may be found that closure is represented by two or more factors that are specific for each modality. An extensive study of perceptual abilities has recently been carried out by Harold P. Bechtoldt.

It is not our purpose here to summarize all of the primary factors that have been identified but only to describe the general nature of these findings.

When we consider the increasing number of distinct functional unities into which the field of cognition is being divided, we find that it is necessary to revise very fundamentally our notions about general intelligence. Factorial results make it imperative

that we describe each individual in terms of a profile of mental abilities instead of by a single index such as the I.Q.

With further progress in this field we shall have a profile for each person with a very large number of columns. It is our present belief that if we knew the twenty most important primary factors we should be able to undertake educational and vocational counseling with more confidence than at present. Even in the present state of knowledge with about ten of these factors identified, we certainly can do much better in appraising the intellectual assets of a person than by the older methods by which each person was described in terms of a single I.Q.

Factorial work raises interesting questions about the general intellectual factor of Spearman. According to his hypothesis, general intelligence is mediated by a central intellectual factor which he denoted "g." This hypothesis has been the subject of much controversy in the last forty years. When the multiple-factor methods began to isolate quite a number of primary factors in the cognitive domain, it looked at first as if the Spearman single-factor hypothesis would have to be discarded but that does not seem to be necessary. It was found that the primary factors of cognition were positively correlated. For adults, most of these correlations are under +.30. When the positive correlations between the primary factors are examined factorially, there appear second-order factors, and the most conspicuous of these second-order factors agrees well with Spearman's hypothesis. Here we have a clue to an interpretation that may unify the early work of Spearman and the later work with multiple-factor analysis. The interpretation that seems plausible at this time is that the primary factors represent different kinds of mental facilities such as several kinds of memory, several kinds of perceptual closure, several visualizing factors, and several verbal factors. These primary abilities may be regarded as media for the expression of intellect and people differ markedly in the effectiveness with which they can express themselves in these different media. The second-order factors may represent parameters that are more central in character and more universal in the sense that they are not determined by the efficiency of each modality or imagery type. The first-order primary factors may be regarded as separate organs, in a general sense, while the second-order or general factors represent parameters which influence the activities of the several organs or primary fac-

tors. The general factors may then be expected to have no particular locus whereas some of the primary factors may eventually be rather definitely localized.

This attempt to unify Spearman's work with the later multiple-factor work seems to be plausible in terms of the findings of recent factorial studies but it should not be taken very literally. We can make only a tentative sketch of the underlying order at this early stage of knowledge of the organization of human intellect. If Spearman's general intellective factor is the same as the second-order inductive factor, then we can now determine that general factor uniquely. That is something which Spearman was never able to do. I have spoken of second-order factors in the plural. The reason is that we seldom find a single second-order general factor which would be indicated by Spearman's original hypothesis. Such complications are to be expected with the development of any science and it should not be interpreted as a discredit to Spearman's early work on which all of us have built.

In introducing our speculation about the relation of Spearman's general intellective factor "g" to later multiple-factor studies, we have noted that the primary factors are positively correlated. This also introduces a conflict between our statistical habits and psychological judgment. Some students of factorial theory bring to this subject their statistical habits and they sometimes insist that factors must be uncorrelated in order to be meaningful and useful. This is a curious situation. We deal all the time with meaningful measures that are correlated such as height and weight, but when we turn to the mental abilities, we are told that we must force them to be uncorrelated. Scientific judgment dictates that we report the correlations between primary factors as they are actually found, irrespective of statistical convenience. The correlated abilities are represented in factor analysis by oblique reference axes. That is not so convenient as a coordinate system in which all of the axes are at right angles.

Psychological studies of aptitudes frequently refer to such categories as mechanical aptitude, artistic aptitude, and musical aptitude. We shall describe briefly a current study of mechanical aptitude as an illustration of the psychological aspects of factorial analysis. It is rather common to hear mechanical aptitude referred to as if it were a single entity but it is our hypothesis that mechanical aptitude is a complex of abilities rather than a single unitary trait. It also seems plausible that we are dealing here with

a rather restricted number of abilities. It is our job now to try to discover how many important abilities are involved in the complex known as mechanical aptitude and what those abilities are. Further, we make the hypothesis that mechanical aptitude is mostly in the head. It is not uncommon to hear this type of talent described as if it were in the finger tips, even associated with a certain amount of stupidity and a willingness to get one's hands dirty. In fact, it is rather common in the public schools to send the verbally slow learners into technical schools with the idea that if a boy is sufficiently stupid, he may become a good machinist. This is one of the educational blunders of our generation. It is our hypothesis that when a mechanic inspects a piece of machinery that is misbehaving, and when he diagnoses what is wrong with it, he is using his head and only incidentally his hands. Musical talent is also a complex that is not confined to finger dexterity. The psychological problem in the current study is to discover, if possible, what cognitive primary functions are involved in mechanical aptitude. If we could solve that problem, we might make a contribution of importance to education as well as to industry.

In the current study of this problem, we have made some tentative hypotheses which are in turn represented by differentiating tests that were specially designed for the purpose. One hypothesis which will almost certainly be sustained, as it has been in previous studies of this problem, is that mechanical aptitude consists in some large part of the space factor S, namely, the ability to think about objects in two-dimensional and in three-dimensional space. There are tremendous individual differences in this ability to visualize space, and in an educated audience we could find a fairly large proportion of individuals who, although otherwise gifted, are very poor in this ability. The tests by which this factor has been identified all involve the visualizing of objects that are stationary. In dealing with mechanical problems, one must be able to think of objects in motion. Their relative motions have definite restrictions that are studied in a separate discipline known as kinematics. We might therefore add another psychological hypothesis, namely, that there exist one or more abilities that are revealed in the ability to think about solid objects in motion as distinguished from thinking about them when they stay still. Another hypothesis about this group of aptitudes is that the ability to remember visual form has some part in mechanical aptitude. Still another

hypothesis is that the perception of fine detail is involved. Perhaps one of the most fruitful hypotheses is that mechanical aptitude involves non-verbal reasoning.

When a list of hypotheses has been assembled, the next step is to invent a set of experimental tests which shall be crucially differentiating among the hypotheses. When that has been done, the tests are prepared and tried out for suitable time limits and performance instructions. Then they are given to several hundred individuals who are known to differ widely in mechanical aptitude. There is no need to represent the general population. In fact, it is wasteful to assemble a group of experimental subjects so as to represent the general middle range. It is better to include extremes of all available types in the experimental group. It will generally be found that all this work requires more time than the computational work that follows.

Similar studies should be undertaken in the fields of artistic aptitude and of musical aptitude in the hope of determining the dimensionalities of these fields. It has been our experience that no domain is completely determined in a single factor study because every study raises more psychological problems than it answers, but this is the natural course of science.

When a factorial analysis has been completed, one is tempted to try to interpret all of the common variance in terms of common factors, but it usually happens that some of the factors are indeterminate while some of them are clear and easily interpreted. It should be pointed out that a factorial study can make a major scientific contribution to our understanding of mind, even if it does not attempt to identify all of the common factors clearly. An important contribution can be made even if only one new factor is isolated and psychologically described even if all of the rest of the variance remains an unknown muddle. Such results depend on the structure that happens to be found in the factorial battery that is assembled to represent a domain, and every factor study is in this sense a gamble.

The inheritance of mental abilities has been investigated on 150 pairs of identical and fraternal twins. They were given forty psychological tests, including both group tests and individual performance tests. It was found that the identical twins were more nearly alike than the fraternal twins. Their differences were especially marked in the visualizing factors. It was found that spelling ability

was one of the most conspicuous in differentiating the identical from the fraternal twins. The ability to learn spelling seems to be quite independent of most other abilities and it should be investigated to determine its relations to the primary factors.

One of the most important implications of factorial work is the breakdown of the line of demarcation between intellect and temperament. It is becoming increasingly evident that these two domains are not so completely separated as they have frequently been assumed to be. For example, the primary factors that identify perceptual closure are certainly cognitive in character and yet they seem to be definitely related to temperamental characteristics as well. In this connection the recent work of Dr. John G. Lynn is of special interest. He gave some tests of primary mental abilities to psychiatric patients and he noted in particular those patients who were relatively much better gifted in the space factor than in the verbal factors. He noted also the opposite extreme, namely, those patients who were much better gifted in the verbal factors than in the space factor. He found interesting differences in the symptoms of these two groups of patients. For example, he found that among the patients who were much higher in the space factor than in the verbal factors, there were no hallucinations. This field calls for very intensive study so that we may know more definitely the relations between the emotional symptoms and the relative strengths of the cognitive primary factors. Other studies of normal subjects have shown indication of temperamental differences between those who excel in the visualizing factors and those who excel in the verbal factors.

Factorial work is customarily based on experimental populations of several hundred subjects and the primary factors are isolated, ordinarily, on populations of normal subjects. I should like to suggest a parallel form of experimentation that should give results consistent with the factorial experiments. It is well known that among feeble-minded subjects we find occasionally conspicuous cases in which one or more abilities remain intact and even of superior quality while the subject is otherwise so poorly endowed mentally that he must have institutional care. I believe that significant studies could be made of single subjects in order to clarify our understanding of the primary mental abilities. For example, a single patient might be found who excels on a few similar tests while he fails hopelessly on the rest of them. Now, the investigator should alter slightly

the several tests which the patient can do in order to determine just what characteristics must be retained in order for the patient to be able to do the task and just what characteristics of the test are associated with his failures. The investigator would have to try a large number of slight variations in the tests in order to be able to draw a sort of psychological map, as it were, to show just what the patient can do and what it is that he fails to do. If it can be assumed that one or a few of the abilities are intact in the patient, then we might be able to determine from the successive performances of a single patient just what each primary factor involved. The results should then be verified factorially by a study of normal subjects. I am calling attention to this type of inquiry in order to show again the intimate relations between factorial experiments and psychological hypotheses. We must not regard factor analysis merely as a toy for the statisticians to play with. It is a scientific method that should be useful in testing hypotheses in experimental, clinical, and social psychology.

To emphasize this point in another way, we may consider the task of interpretation of factorial results. When I found some years ago that there were two verbal factors in the battery that had been analyzed factorially, I was curious to know what these two verbal factors were like psychologically. I played *solitaire* with these tests, and I introspected for each test to see what was going on in my own mind when I did the two kinds of tests which were to be differentiated. Then I found what should have been obvious at the start, namely, that one kind of verbal test required the subject to produce the words, sometimes without regard to their meaning, whereas the other kind of test required the subject to understand the words that were presented to him. These were the factors V and W which have since been verified in a number of factorial studies. Last summer, the ideational fluency factor F was differentiated in the same manner by Calvin W. Taylor. When a factorial study is under way we are always eager to complete the computational work so that we can begin the more interesting job of psychological interpretation, which is the goal of the factorial study.

It is my conviction that the domain of temperament can be clarified by factorial studies in a manner analogous to the studies by which the primary factors of cognition are being identified. Most of the tests of temperament are really not tests at all. They are only questionnaires in which the subject controls

the answers completely. It would probably be very fruitful to explore the domain of temperament with experimental tests instead of questionnaires. Most psychologists would probably regard the early work of June Downey as obsolete and possibly as representing a false lead. It is my belief that she had the right idea to investigate temperament with experimental methods rather than with questionnaires. It would probably be fruitful to return to that lead but it would not be necessary to limit such inquiry to handwriting as the medium.

As a cross between cognition and temperament, it might be profitable to make a factorial experimental study of symbol association with response time recorded separately for each subject and for each symbol association. The several tests might consist of specified types of association to be made by the subject in response to the stimuli. The readiness with which the subject makes a specified kind of associational response would constitute his score in a test. A factorial study of the results might be very revealing, and it would not be surprising if the factors so determined would have intimate relations with both intellect and temperament.

Some of the implications of recent factorial work are of educational significance. A factorial study has been made with seventy psychological tests that were given to several hundred five-year old children. Since most children at that age cannot read, it was necessary to design all of the tests in pictorial form. The results of that study indicated essentially the same primary mental abilities that have been found among high school students and adults. The mental profiles of five-year old children show the same great variation as adults. The number factor in children of this age seems to be more inductive than in adults so that it can be called quantitative thinking. It seems to be possible to identify the space factor in children even at the age of three or four. For example, if a very young child shows interest in *jigsaw puzzles*, one can probably make the inference that he is a good visualizer. It certainly is evident that young children are capable of more complex reasoning than we ordinarily give them credit for. As adults, we are so accustomed to the verbal medium that we are likely to misjudge the reasoning powers of young children who have not yet developed adult vocabulary. The frequent early development of quantitative thinking at the kindergarten age makes one question the current practice of delaying instruction in arithmetic until a later age.

One of the important educational problems in the first few grades is that a certain proportion of children have difficulty in learning to read. In many cases this difficulty does not seem to be associated with low intelligence, but it seems to be more specific. Studies have been initiated in order to relate the mental profiles at the kindergarten age with subsequent performance in reading. There is a possibility that the methods of teaching reading should be adjusted to the mental profiles of the children. If it should be found that children of different mental profiles profit by different methods in teaching reading, then the same type of problem can be raised at all subsequent ages. It may be specially important to adjust the teaching methods at the early ages to the mental profiles of the children.

Since the primary mental abilities have been isolated as functionally distinct, even at the kindergarten age, one naturally raises the question of differential growth in the primary factors. It is still a question of fact whether children differ markedly in the rate of development of the different primary factors. If there are great individual differences in the primary mental abilities themselves, it would not be surprising to find that there are also individual differences in the rate of growth of the different factors. Besides the possible individual differences in rate of growth, we already know that some factors mature much sooner than others. Perceptual closure seems to mature at the age of nine or ten, so that there are no differences between nine-year olds and adults in mean performance. The verbal comprehension factor V probably matures more slowly than any of the others. The growth of verbal comprehension is difficult to appraise because the estimation of this factor is more influenced by schooling and experience than some of the other primary factors. Instead of worrying about the constancy of the I.Q. we shall probably find ourselves worrying about the relative constancy of the profile throughout the life span.

It is one of the most common questions about primary abilities whether they can be trained, and the answer is in the affirmative. On the other hand, if two boys differ markedly in one of the primary abilities and if they are given the same amount of training, it is to be expected that although both of them improve, their difference will be increased by training. Even though the more gifted profit more by training than the less gifted, it is of course generally agreed that training opportunities should be as nearly universal as possible. A full year's curricu-

lum has been prepared for kindergarten children by which the primary abilities are trained in a large number of games that vary from day to day. It is not unlikely that similar training material for the primary abilities will be introduced for the later years in the school curriculum.

In educational and vocational guidance it has been the practice to find by trial and error those tests which are diagnostic for different curricula and for different occupations. With increasing knowledge of primary abilities it may be expected that job analyses will be made in terms of these abilities. When jobs are so described, the selection tests can be prepared rationally instead of by crudely empirical methods and we shall then predict with confidence that the selection tests will have validity for the jobs. The same reasoning applies to the more complex fields of vocations and professions. We shall then have rational vocational guidance instead of trial and error search for valid tests for each job.

Mental profiles have been determined for over half a million high school children in Chicago and it has been found that all possible combinations occur in the profiles. The records show many hundreds of interesting case histories. A boy who was a poor reader was considered to be a dunce by his teachers. His mental profile showed that he had the highest score on Space and Reasoning, and high scores in all other factors except the verbal factor V. His teachers changed their attitudes when they saw that his handicap was quite specific. An amusing case was a girl who talked herself out of a number of situations involving truancy and misbehavior by fantastic but plausible stories. When her lies were eventually discovered, it was also found that her mental profile was very low in all factors except one, namely, verbal fluency. If the profile had been seen earlier, her teachers would have been warned about the possibilities of such a strange profile. It requires often considerable insight of the examiner to relate the mental profile to the circumstances of each case, but there is no question but that the profile is more helpful than the I.Q. in the interpretation of educational and behavior problems.

We shall conclude with a few implications of factor analysis for social psychology. The complex of social attitudes on current political issues, both in domestic and international relations, could be investigated as to its principal dimensions. One of the writer's first papers in factorial theory was a crude attempt to isolate the blocs in a legislative

body by the voting records of its members. That problem can be investigated by the so-called obverse factor methods in which correlations are determined between persons instead of between tests. An obverse factor analysis is now being made by James W. Degan of the voting records of the Supreme Court judges. The object is to ascertain by analytical methods whether the voting records show consistent factors among the judges that determine their votes. Such a finding would indicate the extent to which their votes are determined by legal reasoning and the extent to which their votes are determined by political philosophy or expediency. The study promises to be of some general interest.

The whole problem of race differences is reopened by the factorial results. Since the races differ physically, it seems plausible that they also differ in cognitive and temperamental traits. If this should be

found to be the case, it would not necessarily imply that they differ markedly in intellectual level. It may be expected that they differ in average mental profiles both in the primary abilities and in temperamental profiles. If such differences are found, they may eventually be capitalized in the same way that individual differences within any population can be appraised as a national asset.

I have tried to review some of the implications of recent work on multiple-factor analysis with special reference to its contributions in psychology. The factorial methods have been applied in other sciences with some interesting findings but we are concerned here with the use of these methods in psychology. My final remark is that the factorial methods will be fruitful in the advancement of psychology only in so far as we use these methods in close relation to psychological ideas.

PERSONALITY ORGANIZATION IN CHILDREN¹

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UPON this, the first occasion on which the members of the newly formed Division of Childhood and Adolescence of the American Psychological Association are exposed to the custom of addresses from retiring divisional presidents, it is appropriate to express the wish that a long series of papers may be initiated which will express a growing interest and substantial accomplishment within our field.

It is my purpose to examine some of the current conceptions of the personality of young children in the light of modern research, and more particularly, the implications of erroneous conceptions that have far reaching effects in determining policy and practice with children.

Many discussions of child personality found in textbooks in general, abnormal, and social psychology are written from an adult point of view by persons who have had little contact with children. Many of the statements made seem to be projections backward upon the child of concepts that seem necessary for the author's conception of adult behavior. In the main, the impression given is that the young child is passive, delicate, unusually subject to shock and trauma, and responsive to all possible stimuli. For instance, some advocates of the frustration aggression hypothesis picture the child as a passive person who reacts when he is blocked and who expends energy in proportion to the amount of frustration. So far so good. But when it is assumed that all aggressive activity in young children is the outcome of frustration, the active display of energy which is the most fundamental characteristic of a living organism activity is denied, and docility and passivity are attributed to the young child as normal.

This is also the purport of much of the psychoanalytic teaching about children. The adult is what he is, not because of inadequacy in his makeup or training, but because of a traumatic experience. Since this experience cannot be found in the present,

it is pushed back into an earlier period. When it cannot be found there, it is pushed still further back. Thus, the trauma of adolescence moves back into late childhood, then into early childhood, then into infancy, then to birth, and then into the fetal period. The only place left for trauma is conception.

The analytic and case history literature abound with instances of traumatic and dramatic episodes that are presumed to affect later development. But if the data do not support this view, there is an easy out since such episodes can be repressed and still function, if it is assumed that the child remembers everything. Thus, Symonds (28) in citing the Landis study (17) reports correctly when he says: "Little children who are the recipients of sexual advances from adults usually have no memory of them," and quotes Landis in a footnote to the effect that only three out of 295 individuals reported such incidents as occurring before five years. But Symonds (28, p. 232-33) goes on to say:

They become deeply repressed. However they may later cause personality disturbances and grievous conflicts which are difficult to manage. Likewise almost any traumatic or painful experience of childhood is rapidly forgotten, which means it is repressed. Children seldom remember the extreme dangers encountered in early childhood, the extreme punishments which they received, the accidents which befell them. Where such memories persist these are not usually the really dangerous, harmful, painful experiences; it has been found that they represent screen memories which protect one from the memories of really traumatic events."

Recently Ribble (22) in her book on *The Rights of Infants* has emphasized the infant's need for security and affection and traces almost every type of mental and physical disturbance in infancy and early childhood back to lack of affection. So extreme are her statements that almost every review in scientific journals has pointed out many misinterpretations of established fact. For the understanding of children, Ribble would substitute love and affection. Such conclusions make little difference if read only by scientific workers competent to judge the evidence

¹ Presidential Address, September 9, 1947, Division on Childhood and Adolescence of the American Psychological Association.

for themselves; unfortunately, however, the book has become a Gospel among social workers who in one instance, took the children out of home management houses by citing the Ribble generalizations, even though all the objective evidence obtained by medical examinations and the case histories of the former children showed excellent health and good adjustment as did also the scientific studies published on this problem. Policies of many years' standing with demonstrated successful outcomes in terms of child behavior went by the board almost without protest. Not long ago a social agency discussed seriously whether or not infants should be kept temporarily in an institution for several months for examination and study prior to adoption, on the ground that life in an institution for one or two months would make the infant insecure and cause later personality difficulties. No one seemed aware of the fact that in ordinary homes children are sometimes away from loved ones for months without serious consequences and that adoption itself forces new emotional attachments which are readily made by infants.

In the otherwise excellent study of children's paintings by Alschuler and Hattwick (2), an example of another error is found. In the first volume, many adult characteristics are read into children's paintings by making symbolic interpretations in terms of adult values. Thus, it is said that the child's use of browns and reds and yellows which are "smeary" indicate his concern with eliminative processes, and a little later on a somewhat similar statement is made about the child's use of green. When the statistical material in the second volume is examined for validation of these generalizations, no attempt to check the use of various colors against the children's eliminative habits is reported.

At a recent panel discussion another error was made. A participant talking on jealousy described the situation of the jealous child as like that in which a husband tells his wife that he is bringing a new wife into the home, expatiates on her desirability and asks his wife to assist in preparing for the new wife's coming. While this analogy has obvious dramatic qualities, it is far from a good description of child behavior. There is little evidence that marked jealousy on the arrival of a new member of the family is frequent. However, the evidence available has been played up in the practical literature and jealousy quite appropriately ascribed to an unwise distribution of affection.

But a young child is not like an old wife who has a

whole series of attitudes reinforced by memory and by experiences tied in with the moral, social, and institutional systems of a monogamous society. Nor are the neighbors' valuations of conduct—so essential in the situation faced by the wife—present in the young child who reacts more specifically to the situation and less to the complex of background factors. Which, then, is the more tender, the wife who has been socially sensitized or the young child who has not?

Various generalizations on the personality of the infant and young child which follow from these impressions and interpretations can be made: (1) Infants and young children are essentially passive recipients of stimulation who display little energy or activity on their own; (2) are very delicate and tender, and have little capacity to resist or survive and are especially sensitive to lack of affection to which they cannot adapt for even short periods; (3) are unusually susceptible to and carry the effects of traumatic episodes indefinitely; (4) carry forward all their memories and experiences, which later come out to plague them; (5) in their behavior and the products resulting, are subject to all the implications and values that inhere in adult reactions in similar situations.

In contrast to these views of child nature, scientific findings which lead to a more accurate picture may be considered. These can be grouped under several heads: the child as an energy system with high capacity for self repair and selectivity; the child as a persistent personality system with high capacity to resist deformation, stress, and trauma; and the child as a mechanism that meets life not as a storehouse or filing cabinet, but as an active system engaged in transforming input into output.

In living animals with their capacity to move about, life and activity are closely related phenomena. The inactive organism is dead. A live animal is an active center for transforming food into energy and stimulation into activity. The young organism is more active than the older one, and expends energy at a higher rate. Given normal conditions of health, high motility and activity characterize the waking hours. To produce inactivity, it is only necessary to cut down the food intake for a period long enough to outlast the first increase in motivation. When intake is thus cut, children adjust by becoming lethargic and inactive. When normal food levels are restored, energy expenditure increases.

Insight into the child's effectiveness as an energy

system can be gained from a study of the energy maintenance process in both animals and humans. Brody (6) in his recent book on *Bio-Energetics* has brought much of this literature together. With increase in size, maintenance cost in terms of energy becomes greater, because more effort is necessary to push the weight around. In younger children with low body weight and slight mass in comparison with the mechanism available for motion, energy can be expended at a very high rate at a low cost to the organism. Thus, as size increases, more energy is needed for maintenance and less is available for both growth and work. While no studies over a long span of years under comparable conditions have been made of the activity level of humans, the animal studies indicate that with growth and increase in body size, total activity lessens. Casual observations together with informal checks covering all activities in the attempt to measure total energy output make it seem clear that as an energy expending mechanism the infant and young child are very efficient. But if measurement is made in terms of direction of output, i.e. effectiveness in accomplishing a particular piece of work, the results are not so favorable to the child. The child's energy expenditure is essentially unstructured, whereas that of the older worker is highly disciplined. In fact, skill consists largely in doing more with less effort. Thus in terms of the energy available, the young child is not tender or delicate. He is so lively and active that he tends to wear out the inferior adult. As adults we look upon growth as gain. But in terms of total energy growth is loss. Efficiency seems to be gained at the cost of energy.

As an energy system the child is composed of many interrelated parts which work together as a functional unit. Within the system as a whole, and even within the parts of which it is composed, there is much opportunity for compensation and adjustment in order to meet external stress and strain. This principle can be readily demonstrated for the body as a whole and for any of the great organ systems as well; it is one of the basic devices by means of which life is maintained in the face of an environment.

Not only is there capacity for compensation and adjustment, but also tremendous capacity for self-repair when damage occurs. Within limits, this is also a property of all living systems. Evidence indicates that this capacity for self-repair decreases with age. For example, in the deNouy (21) investigations of the rate at which cuts heal, it was found that

in the ten year old child cuts heal twice as fast as in the twenty year old, in whom they heal three times as fast as in the sixty year old. Thus, in the ten year old child the healing rate is six times that of the sixty year old. If these results can be generalized to other processes and extrapolated, it would appear that a physical shock or trauma to produce the same amount of deformation in a ten year old would have to be twice as severe as that for the adult, and six times that for the sixty year old.

As evidence against this view, the great sensitivity of the young child to drugs and toxic substances of various types might be cited. This, however, seems to be much more a function of the mass of the body than of its reactivity as is shown by its variation with differences in weight in species and individuals and in the use of simple linear conversion formulae. Infants and young children, however, show very quick recovery rates from the drugs given in doses appropriate to their weight. Similarly, they recover quickly from toxic effects and from illness.

Students of the physical effects of birth, while emphasizing the rigor of the birth process for the child, also stress the tremendous capacity of the infant to withstand the shock. It has been said that for the normal infant, the physical shock of being born is about the equivalent to an adult being thrown out of a third story window. Yet normal infants take this shock in their stride, without serious after effects or bodily difficulties.

Being prematurely born should constitute a trauma of the first magnitude, not perhaps physically, but certainly psychologically if generalizations of the type made by Ribble and the psychoanalysts are correct, because of the forced separation of the infant from its mother well in advance of the appropriate time. Yet a substantial literature in anatomy, physiology, and psychology shows that prematures cannot be distinguished by any criteria whatever from full term infants after nine months in most cases, and after eighteen months in all cases.

Another characteristic of a living system is the selective character of its reactions to the environment, that is, the manner in which it preserves its essential unity by choosing that which fits the system, and neglecting or rejecting that which is not congruent. This is also a protective device that enables the child to insulate himself against unwanted stimulation and to resist shock and trauma.

Are the infant and young child more or less delicate than older persons? If this problem, thus far studied

to only a limited degree, were analyzed in terms of healing times, repair rates, recovery from illness, and the rapidity with which lost function is regained, in my opinion the results would be very favorable to the infant and young child, not quite so favorable to the adult, and much less so to the old person. Children have an amazing capacity to survive in the face of the various demands made upon them. By and large, most life processes look toward the preservation of the young in preference to the older organisms.

But there is also a more direct answer to this question. What do the scientific studies, carried on over a span of years, reveal with respect to the persistence or non-persistence of personality traits? If the personality of the infant and young child is so delicate, it should be modified easily and show great change from year to year and over a period of years; if it is a system that resists deformation and maintains its integrity, it should show less change with time, and the changes, when and if they occur, should be consistent with the original personality.

With the cumulation of data on children as a result of many years' observation in modern centers, this problem is being attacked for a wide variety of traits and trait patterns, in addition to the many studies of the persistence of intelligence which on the whole support the view of stability.

Baby biographers of the older days (12, 25) noted the emergence of individuality in infancy and emphasized the persistence of temperamental or personality traits. Woolley (30) described Agnes, a little girl who showed the same personality pattern of aggressive behavior from ages two to five. Studies on groups of children are found in the more recent literature. Cushing (8) found persistence in perseverance, Washburn (29) in smiling, Brackett (5) in laughter, and Bayley (4) in crying. Green (11) found persistence for group play and Loomis (18) for social contacts. Jersild and Markey (13, 15) found conflict behavior similar over a year's time. Stutsman (27) studying 140 preschool children for three consecutive years found high consistency in ratings on traits and in profile patterns. In the McGraw study (19), Johnny and Jimmy maintained personality differences as long as they were studied. Allport (1), studying his own son, found that the prognosis of personality development at four months of age tended to be borne out at two later ages. Gesell (9) showed movies of five children at ages one and five to trained observers who ranked the children on

fifteen behavior traits, including energy, demeanor, ascendance, social responsiveness and the like. Out of 75 rankings, 48 coincided, 21 were displaced by only one rank, 5 by two ranks, and 1 by three ranks. He concludes that this shows the prophetic character of the first year's behavior traits.

In the study by Sanford, et al (24), a restricted sample of children was studied over a three-year period on an unusually wide variety of personality variables. To quote:

"The results analyzed indicate that, in general, subjects do tend to be consistent in their behavioral manifestations over the three-year period to a degree that approaches statistical significance, (average r equals .33). Subjects who rate high as compared to their fellows, on one of the variables present in 1937 also rate high in 1938 and in 1939. On the other hand, the present coefficients of consistency are not large, and it is clear that subjects vary considerably, in standing on the different variables, from one year to another. How much of this variation is due to the fact that subjects actually change and how much is due to the unreliability of the measures cannot be determined from our data." (p. 236)

Roberts and Fleming (23) analyzed the persistence and change in personality patterns in the pre-college, college, and post-college periods for twenty-five women whose life histories were obtained through four years of contact with a college advisory service. In each case, some nucleus of traits persisted throughout the whole period of observation. In each there was also some fluctuation in traits. Although the whole persistence was greater than fluctuation, the amount varied from case to case. At one extreme, one woman showed 85 per cent persistent traits, whereas at the other, one woman had only 26 per cent persistent traits. For the group as a whole the percentage of persisting and fluctuating traits was in the ratio of three to two. Of the twenty-five women, sixteen showed more, six showed an equal amount, and three showed less persistence than fluctuation.

This morning Dr. Kinder (16) reported a study of 15 infant chimpanzees ranging in age from one year four months to four years three months, each studied five times over three and a half years. She says: "Characteristics appearing at the earliest ages studied have remained relatively constant over the three and a half years as shown by high statistical retest reliability." There was also evidence of highly

specific and constant social relationship for certain pairs.

The most extensive study of persistence over a long span is that of Neilon, who followed up the infants for whom Shirley (26) had written detailed personality sketches based on her extensive studies of them from birth to two years. Neilon, who had not seen these sketches, studied as many of these children as could be located 16 years later with a variety of personality tests, and a standardized interview on attitudes, interests, and activities. In addition, she interviewed each mother, and had both mothers and fathers rate the children on a wide variety of traits. From this data a lengthy personality sketch was written for each at the age of 18 years.

The original Shirley sketches were then carefully checked against the Neilon sketches to eliminate any obvious cues or overlapping factual statements. Ten judges then matched five sketches of adolescent girls with the sketches of six infant girls, among which were the same five. Five judges matched ten sketches of adolescent boys with thirteen infant sketches which included the same ten. For the girls there was less than one chance in a million that the mean of the ten judges in matching five versus six cases would equal or exceed 3.2. For the boys there were only 25 chances in 100,000 that the mean of five judges in matching ten versus thirteen cases would equal or exceed 2.6. By any statistical method the matching was very far above chance. Analysis showed much greater ease of matching for some children than for others. Thus, it becomes clear that personality characteristics persist in an individual over a period of time, in this instance at least 16 years from infancy to adolescence, and that some personalities are more readily identifiable after a period of time, presumably because of a greater uniqueness of personality pattern than are others. As with the earlier studies, this study supports the principle of the consistency rather than the inconsistency of personality traits.

It is one of the paradoxes of our modern discussions of personality that those who are most insistent upon the responsiveness of the personality to shock and trauma are also those who believe most strongly that the individual is a vast storehouse of persistent memories which underlie his subsequent behavior. How the contradiction between changing personality and permanent memories is to be resolved is not clear. Let us turn to the literature on memory and learning in young children.

The studies of learning and memory in young children show results that are similar to those obtained on older persons (3), namely, a rapid forgetting rate unless there is restimulation and overlearning. Young children show tremendous repetitive activity and much over-learning rather than marked superiority in retention itself. Some superiority in young children might be expected from priority in learning and lack of interference. But results show that memory for both nonsense and meaningful material increases with age.

Pertinent to the problem of retention is the amount of experience young children have. Although most adults assume relatively slight amounts of stimulation and response, the evidence obtained in studies of young children is quite the reverse. The mass of impressions crowding in, and the number of specific responses made within a single day, and the number of potential memories created even in a short period is tremendous. For instance, studies on language development show that four-year-olds speak as many as ten thousand words per day, which multiplied by 365 for the year begins to reach astronomical figures. Studies of social contacts of young children reveal hundreds of teacher-child, and child-child contacts within a relatively short period of time. In a reasonably stimulating environment, the sheer quantity of interrelations tends to be overpowering and raises a question how out of such a mass of material, specific items can be retained.

Not often considered in connection with child memories and traumatic episodes is the literature on the learning of skills, in which control groups and checks for retention have been used. On the whole, most of these studies have yielded negative results for continuation of skill at the terminal practice level. Even within a short time there is substantial loss. These results have been somewhat discouraging, particularly to those who expect to train and find an intact result years later. Unless there is occasional practice to keep a particular skill or activity alive by occasional practice, it tends to regress or drop to a low level. In those instances, such as the Jersild and Bienstock (14) experiment on the persistence of musical skill after an interval of two years, a theory in terms of sensitization and implicit practice as a result of musical stimulation in the environment is developed to account for the differences in the two groups. In actual life in contrast to experimental situations, the child who learns to swim early, tends to swim much more than the child who

learns late and thus maintains superiority. The learning literature not only indicates the child's enormous capacity to forget, but also shows that much forgetting is quite complete.

Additional light is thrown on the problem of the persistence of personality traits by a whole group of studies not often considered in connection with the problem of personality organization. These also show failure to retain new modes of behavior and adjustment in which training has been given. I refer to the follow up studies of delinquent behavior, of which the most striking example is that of Glueck and Glueck (10), who found extraordinarily high proportions of recidivists when every case that had been through guidance clinics and juvenile court treatment was followed up. This discouraging result, however, should only give us pause; on the whole, after their curative and remedial treatment, these children had to return to their old environments in which all the factors which produced the original delinquency were still operative.

While many stimulating and brilliant researches have shown the possibilities of modifying social behavior by measuring the child's responsiveness to his group, giving intensive training apart from it, and then measuring his responsiveness on his return, few checks for retention are seldom made. Hence, no one knows how long, subsequent to training such modifications will persist without reinforcement. If the personality is a selective system operating on its environment in accordance with a principle of congruence, care must be taken in interpreting the effects of such experimental or training procedures.

The implications of the foregoing view are reasonably clear. Instead of being a passive and receptive organism, the young child is a personality system that functions as a unit in its present environment. Available in the present is an energy mechanism which, because of some degree of organization, is selective in relation to its environment. Of the countless experiences in an almost continuous round of stimulation and response, some are retained and incorporated into the system, while very many are lost and lost permanently.

How, then, are the temporary experiences distinguished from those which are transformed from the situation into the internal system of the individual? How is the developmental stream of personality manifestation modified? For temporary experiences, the response is related quite directly to the stimulus and is determined by the valences

within the situation. With more permanent modifications, the effects produced within the organism or by the organism on the external environment may have little or no relation whatever to the intensity of stimulus or the immediate valences which function merely as cues to set off a response which thenceforth goes on its own course. Thus, the personality achieves a type of inner organization which becomes more and more powerful with the passage of time, and which frees the personality to a greater and greater degree from the dominance of the situation.

If this principle holds, a traumatic experience is not really an episode but an event which modifies the stream of organism-environment relations. The factors which make an experience traumatic for one child and not for another are precisely those which determine the permanence or impermanence of memories. In order to modify the stream of organism-environment relations there must be reiteration, i.e. a mechanism similar to that which produces overlearning in the case of a skill or memory must be present. It then becomes important to examine the environment for recurring stimulation and the individual for manifestations of an internal process that can exercise a "carrier" function, which operating again and again, will keep alive the sub-systems of response which are crucial in personality organization. Such an internal mechanism is found in speech and the symbolic processes which are universally used by those responsible for children to control and educate them and by the person himself either overtly or implicitly to fix and control his own behavior. While some research has been done on these controlling functions, when used on others little has been done on the devices by means of which the individual controls himself.

In my opinion, promising opportunities for future research lie in the analysis of the organism-environment relation in terms of the repetitive and reiterative phenomena occurring within the constant stream of stimulation and response that serve to keep skills, experiences and memories alive and which make of certain experiences, traumatic episodes. The following suggestions as to possible devices may be made:

1. *The family story.* Many of the young child's experiences occur under conditions in which they are observed by others and become the occasion of family stories. Thus, in one family one child behaved bravely and another in cowardly fashion in the face of a fearsome situation. The story of

Mary's fear and Johnny's bravery was told again and again in their presence; in fact, the children came in time to ask that the story be told. Here is not only a reinforcing mechanism but also one that sets up an expectancy with regard to future behavior.

2. *Consistent presentation of attitudes and roles.* In the recent study by Child, et al. (7) of children's textbooks and personality development, an environmental factor that involves reiteration was located. By analyzing a large number of school readers available to children, it was found that characteristic attitudes were consistently presented. Thus, the school readers regularly presented the boy as active, seeking adventure, and achieving, and the girls as sociable, kind, timid, and relatively uncreative. Although no similar analysis of consistent emphasis and values which parents and associates put upon certain types of stimulation and behavior has been made, it seems clear that such analysis would reveal similar factors operating.

3. *Attention getting devices.* Another type of reiteration may be found in the child's accounts of his own experiences in order to secure attention. In a brief moment of high excitement all others turned to him. Why not recapture it by retelling? If the audience responds all well and good, if not, the child blocked from overt expression can turn to silent speech and fantasy. Here again will come reinforcement and expectancy.

4. *Return again and again to experiences because of their incompleteness.* Actions cutting the child's experience short may bring an experience out of its background and cause its repetitive behavior. The mother's unsatisfying answer to a question about sex in comparison to her direct answer to other questions may cause the child to return again and again to the question. A child told not to touch a gas stove could hardly keep away from it, while another shown how to operate the valves, quickly lost interest.

5. *Persistent problem of adjustment.* In the Alschuler and Hattwick study of *Painting and Personality*, Aileen who had a continuing adjustment problem, made paintings for many years with a common element, which apparently had a symbolic relation to the problem.

6. *Group expectancies and roles.* Within a group of children, roles are assumed by individuals who thereafter are expected by the group to take these roles on subsequent occasions. In time persistent patterns of behavior in terms of group expectancies emerge. Here are reiterative relations which force

conformity because of their recurrence and which mold personality.

CONCLUSION

The personality of young children is frequently misrepresented because of views based on adult behavior which project back upon the child-adult characteristics. Common types of misrepresentation are: (a) the child is passive and responds to all the stimulation to which he is exposed without action or selection on his part; (b) the child is so delicate and tender that he must be protected at all costs, and must have exceptional amounts of love, affection, and security; (c) the child carries forward all his memories and experiences to later behavior, and is particularly affected by so-called "traumatic" episodes or single intense experiences.

In contrast to these, the following picture of the child as a personality system is presented: (a) The child is an active energy system that responds selectively to its environment and neglects as well as takes in many stimuli; (b) the child has substantial capacity to withstand stress and strain, and recovers quickly from deformation and has great capacity for self-repair and readjustment; (c) the child lives in the moment rather than in the past or future. What affects him must somehow or other get into the field of forces in which he is reacting; (d) the child forgets much of what he experiences and carries forward as mental and behavior equipment only that part of his experience which, because of reiteration has received unusual emphasis; and (e) because the stream of stimulation and reaction in the normal young child is tremendous, the quantity of experience had within even a short time far exceeds that which persists.

Personality becomes organized around certain nodal points or experiences which have received particular emphasis and much reiteration. As examples of reiterated factors that give particular experiences significance were mentioned: (a) the oft-repeated family story which fixes behavior and creates expectancies; (b) repeated environmental simulation consistent in attitude and role; (c) accounts of experiences which because they attract the attention of others are repeated either aloud or silently; (d) the return again and again to incomplete and unsatisfactory experiences; (e) persistent problems of adjustment which force symbolization; (f) group expectancies which create roles that are assumed again and again.

The child, then, is not a simple passive creature molded exclusively by external forces; he is very much a creature in his own right, moving through his own experiences and creating his own world. This is not to deny the value of nurture in creating the best possible world for children, but to plead for a study of the child as he is rather than to use him as a convenient locus for images which fit adult conceptions and convenience.

What I have said might be interpreted as indicating that personality traits are unmodifiable, and to deny the value of good nurture. Such is not my view at all. What we need, it seems to me, is a much more complete approach to the problem of persistent and fluctuating traits and characteristics with an analysis of all our data in terms of a span of time. When this is done we will locate the factors that produce modifications and find that change is orderly and consistent. We will move away from emphasis upon the traumatic episode, which is but another instance of what E. B. Holt called the "great white flame" theory of behavior. By locating in the stream of stimulation and response the recurring factors which are subject to control, we will be able to guide the process of growth and development more effectively and improve the adjustment of all children. We not only need to know how to create a good environment for children; once created, we need to know how to maintain it.

REFERENCES

1. ALLPORT, G. W. *Personality: A Psychological Interpretation*. New York: Henry Holt, 1937.
2. ALSCHULER, ROSE H., AND HATTWICK, LABERTA W. *Painting and Personality*. Vols. I and II. Chicago: University of Chicago Press, 1947.
3. ANDERSON, JOHN E. Child development. Relation of learning capacity to age. Pages 162-64 in *Encyclopedia of Educational Research*. New York: Macmillan, 1941.
4. BAYLEY, NANCY. A study of the crying of infants during mental and physical tests. *J. genet. Psychol.*, 1932, 40, 306-29.
5. BRACKETT, CATHERINE W. Laughing and crying of preschool children. *J. exp. Educ.*, 1935, 2, 119-26.
6. BRODY, S. *Bio-energetics and Growth*. New York: Reinhold Publishing Co., 1945.
7. CHILD, I. L., ET AL. Children's textbooks and personality development: an exploration in the social psychology of education. *Psychol. Monogr.*, 1946, 60, No. 3. Pp. 54.
8. CUSHING, HAZEL M. A perseverative tendency in preschool children: A study in personality differences. *Arch. Psychol.*, 1929, No. 108. Pp. 55.
9. GESELL, A., ET AL. *Biographies of Child Development*. New York: Harpers, 1939.
10. GLUECK, S. AND GLUECK, E. T. *Juvenile Delinquents Grown Up*. New York: Commonwealth Fund, 1940.
11. GREEN, ELISE H. Friendships and quarrels among preschool children. *Child Developm.*, 1933, 4, 237-52.
12. HOGAN, LOUISE. *A Study of a Child*. New York: Harpers, 1900.
13. JERSILD, A. T. The constancy of certain behavior patterns in young children. *Amer. J. Psychol.*, 1933, 45, 125-29.
14. JERSILD, A. T., AND BIENSTOCK, S. F. A study of the development of children's ability to sing. *J. educ. Psychol.*, 1934, 25, 481-503.
15. JERSILD, A. T., AND MARKEY, E. V. Conflicts between preschool children. *Child. Developm. Monogr.*, Teachers College, Columbia Univ., 1935, No. 21. Pp. 181.
16. KINDER, ELAINE F. Development of personality characteristics. *Amer. Psychol.*, 1947, 2, 267.
17. LANDIS, CARNEY, and others. *Sex in Development*. New York: Paul B. Hoeber, 1940.
18. LOOMIS A. M. *A Technique for Observing the Social Behavior of Nursery School Children*. New York: Teachers College, Columbia Univ. Press, 1931.
19. MCGRAW, MYRTLE B. Later development of children specially trained. *Child Developm.*, 1939, 10, 1-19.
20. NELSON, PATRICIA. A personality follow-up of Shirley's twenty-five babies. University of Minnesota, 1946. (Unpublished M.A. thesis)
21. DE NOUY, P. *Biological Time*. New York: Macmillan, 1937.
22. RIBBLE, MARGARETHA A. *Rights of Infants*. New York: Columbia Univ. Press, 1943.
23. ROBERTS, KATHERINE E. AND FLEMING, VIRGINIA V. Persistence and change in personality patterns. *Monogr. Soc. Res. Child Developm.*, 1943, 8, No. 3.
24. SANFORD, R. N., ET AL. Physique, personality and scholarship. A cooperative study of school children. *Monogr. Soc. Res. Child Developm.*, 1943, 8, No. 1.
25. SHINN, MILLICENT. *The Biography of a Baby*. Boston: Houghton-Mifflin, 1900.
26. SHIRLEY, MARY. *The First Two Years. A Study of Twenty-Five Babies*. Vol. III, Personality Manifestations. Institute of Child Welfare Monogr. No. 8. Minneapolis: University of Minnesota Press, 1933.
27. STUTSMAN, RACHEL. Consistency in personality trends. *Psychol. Bull.*, 1935, 32, 701-02.
28. SYMONDS, PERCIVAL. *The Dynamics of Human Adjustment*. New York: D. Appleton-Century, 1946.
29. WASHBURN, RUTH W. A study of the smiling and laughing of infants in the first year of life. *Genet. Psychol. Monogr.*, 1929, 6, 403-537.
30. WOOLLEY, HELEN T.: Agnes: A dominant personality in the making. *J. genet. Psychol.*, 1925, 32, 459-98.

A CHECK LIST OF FACTS ABOUT JOBS FOR USE IN VOCATIONAL GUIDANCE

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THERE is one grave weakness in the present training of many psychologists who work in the field of vocational guidance. Most of them are reasonably familiar with the administration and interpretation of tests. Many of them have had some training in the techniques of interviewing. But few of them have had adequate preparation in the area of occupational information. The result is a serious limitation on the potential effectiveness of their work.

Obviously, no one can be a walking encyclopedia of facts about jobs. No one can know everything that any one of his clients may need to know before selecting a particular vocational objective.

Preparation of vocational psychologists should not consist of heroic feats of memorizing innumerable occupational details that may soon change.

But somewhere in the vocational interview, an effective vocational psychologist must review with his client the important facts which may and should affect the client's decision about the occupation under consideration. These facts include information about necessary and desirable aptitudes and interests. They also include much, much more.

It is the purpose of this article to provide the psychologist with a convenient check list of important facts about jobs. This list may be used in any vocational guidance interview, or in preparation for such an interview, to make sure that the client and counselor have not overlooked important considerations not measured in the testing room. If the check list reveals a need for information not in the possession of the client or counselor, that information should be obtained before any decision is reached or any recommendation made. Even the non-directive counselor is not relieved of the responsibility of helping his client to check his insight against the cold hard realities of employment opportunity. Effective vocational guidance requires both insight and foresight, as plenty of disillusioned clients can now testify by hindsight.

The sources of occupational information are well described in *Occupational Information* by C. L.

Shartle (Prentice-Hall) and will not be discussed here. Shartle's book should be a basic text in the preparation of all vocational psychologists.

CHECK LIST

Not all of the following questions apply to all jobs, but the counselor will find here most of the important topics to consider when discussing any occupation with a client. These questions have been adapted from the basic outline for occupational studies prepared by the National Vocational Guidance Association, and used in the preparation of the Occupational Abstracts published by Occupational Index, Inc., at New York University.

EMPLOYMENT PROSPECTS

Are workers in demand today? Is employment in this occupation expected to increase or decrease?

NATURE OF THE WORK

What is the work of a typical day, week, month, year? What are all the things a worker may have to do in this occupation, the pleasant things, the unpleasant things, the big and little tasks, the important responsibilities and the less glamorous details?

QUALIFICATIONS

Age. What are the upper and lower age limits for entrance and retirement?

Sex. Is this predominantly a male or female occupation? Are there reasonable opportunities for both? Is there any more active demand for one than for the other?

Height and weight. Are there any minimum or maximum requirements? What are they?

Other physical requirements. Are there any other measurable physical requirements, e.g., 20/20 vision, freedom from color-blindness, average or superior hearing, physical strength, etc.?

Aptitudes. Has there been any research on aptitudes required, e.g., minimum or maximum intelligence quotient, percentile rank on specific tests of

mechanical aptitude, clerical aptitude, finger dexterity, pitch discrimination, reaction time, etc.?

Interests. Have any vocational interest tests been validated against workers in this occupation?

Tools and equipment. Must these be supplied to the worker at his own expense? What is the average cost?

Legal requirements. Is a license or certificate required? What are the requirements for getting it?

UNIONS

Is the closed shop common or predominant? If so, what are the requirements for entrance to the union? Initiation fees? Dues? Does the union limit the number admitted?

DISCRIMINATION

Do employers, unions, or training institutions discriminate against Negroes, Jews, others?

PREPARATION

Distinguish clearly between what is desirable and what is indispensable.

How much and what kind of preparation is required to meet legal requirements and employers' standards?

How long does it take? What does it cost? What does it include?

Where can one get a list of approved schools?

What kind of high school or college program should precede entrance into the professional school? What subjects must or should be chosen?

What provisions, if any, are made for apprenticeship or other training on the job?

Is experience of some kind prerequisite to entrance?

ENTRANCE

How does one get his first job? By taking an examination? By applying to employers? By joining a union? By registering with employment agencies? By saving to acquire capital and opening his own business? How much capital is required?

ADVANCEMENT

What proportion of workers advance? To what? After how long and after what additional preparation or experience?

What are the related occupations to which this may lead, if any?

EARNINGS

What are the most dependable average figures on earnings by week, month, or year?

What is the range of the middle 50%?

Are earnings higher or lower in certain parts of the U.S. or in certain branches of the occupation?

NUMBER AND DISTRIBUTION OF WORKERS

Are the workers evenly distributed over the U.S. in proportion to population, or concentrated in certain areas? Where? Why?

Can a person practice this occupation anywhere that he may wish to live?

Do conditions in small towns and rural areas differ materially from those in urban centers? How?

ADVANTAGES AND DISADVANTAGES

What do workers say they like best and dislike most about their jobs?

Are hours regular or irregular, long or short? Is there frequent overtime or night work? Sunday and holiday work?

What about vacations?

Is employment steady, seasonal, or irregular?

Does one earn more or less with advancing age?

Is the working lifetime shorter than average, e.g., professional athletes?

Are the skills acquired transferable to other occupations?

Is the work hazardous? What about accidents, occupational diseases?

In comparison with other occupations requiring about the same level of ability and training, in what ways is this one more or less attractive?

PUBLICATION OF DATE OF RECEIPT OF MANUSCRIPT BY JOURNALS IN PSYCHOLOGY AND ALLIED FIELDS¹

DONALD G. PATERSON

University of Minnesota

AT present, journals in psychology and allied fields differ with respect to the practice of publishing with an article the date of receipt of the manuscript. Sixteen journals do not follow the practice, two followed the practice at one time and later discontinued it, and eight journals now follow the practice.²

Whether or not a given journal follows the practice is dependent upon the policy adopted by each editor. The policy being followed by a given editor probably means in most cases that no particular attention has been given to the question.

Instead of addressing a query to the editors involved, it was believed to be more important to ascertain the views of contributors to the journal literature. It is assumed that they are those best qualified to present general views on the issue. To this end, a brief questionnaire was sent to 231 contributors³ asking each to respond as follows:

1. My attitude toward the practice of publishing date of receipt of manuscripts is: Strongly favor . . . ; Favor . . . ; Does not make any difference . . . ; Do not favor . . . ; Strongly disagree with the practice

2. My attitude as to whether or not the question "To publish date of receipt" or "Not to publish date of receipt" is an important question is: Very important . . . ; Important . . . ; Of little importance . . . ; Not important at all

3. Reasons for attitudes I have checked are:

A total of 217 returns was received. This is a 94 per cent return without any follow-up. The results are given in Table 1 in the form of a scatter table.

Four-fifths of the authors favor or strongly favor the practice of publishing date of receipt (81.1 per cent). Only 3.2 per cent do not favor or strongly disagree with the practice with 15.7 per cent expressing an attitude of indifference. Furthermore, nearly two-thirds (63.5%) believe the issue is important, whereas 30.0 per cent believe it is "Of little importance." Only 6.5 per cent believe it is "Not important at all."

Since the evidence of what contributors desire is so overwhelming, one may well ask, "Why have all editors not followed the practice initiated in 1926 and adopted promptly (between 1926 and 1928) by such influential journals as *Amer. J. Psychol.*, *Psychol. Rev.*, and *J. exper. Psychol.*?" The answer is to be found in the data of the present study since eleven present or past editors of journals following the practice and fifteen present or past editors of journals not following the practice responded to the questionnaire. Their returns are included in Table

¹ The writer is indebted to Dr. Kenneth MacCorquodale and members of his Seminar in Recent Literature at the University of Minnesota for information compiled in November 1947 concerning the practice currently followed by the various journals. The members of the seminar are: Sam E. Baden, W. Grant Dahlstrom, Lt. Col. Clark Hosmer, Elmer John, Robert L. Jones, Philip Kriedt, Abraham Levine, Hjalmer Rosen, David L. Russell, and Irving Simos.

² The following sixteen journals do not follow this practice: *Psychol. Bull.*, *J. abnorm. soc. Psychol.*, *Psychol. Monogr.*, *Amer. Psychologist*, *Occupations*, *J. educ. Psychol.*, *J. consult. Psychol.*, *Educ. psychol.*, *Measmt.*, *J. clin. Psychol.*, *J. Orthopsychiat.*, *Character and Pers.*, *Publ. Opin. Quart.*, *Psychosom. Med.*, *Appl. Psychol. Monogr.*, *Psychometrika*, and *J. educ. Res.* Two journals followed the practice at one time and later discontinued it, namely, *Psychol. Rev.* and *Person. J.* (formerly *J. Person. Res.*). The following eight journals follow this practice, and in the case of each journal, the volume number and the year in which the practice was begun is given in parenthesis: *Genet. Psychol. Monogr.* (Vol. 1, 1926), *(Ped. Sem. and) J. gen. Psychol.* (Vol. 35, 1928), *Amer. J. Psychol.* (Vol. 40, 1928), *J. exper. Psychol.* (Vol. 9, 1928), *J. soc. Psychol.* (Vol. 1, 1930), *J. Psychol.* (Vol. 1, 1935), *J. comp. physiol. Psychol.* (Vol. 23, 1937), and *J. appl. Psychol.* (Vol. 27, 1943).

³ The sample was derived by selecting names of contributors

to recent issues of a number of different types of psychological journals and adding a large number of psychologists known to the writer to be among the more productive contributors to psychological literature. Anyone desiring a list of the 231 contributors may obtain it from the writer.

1 because they were sent the questionnaire as if they were contributors. Their returns, however, when tabulated separately follow a different pattern than is found in Table 1. The editors who follow or have followed the practice tend to favor it. The editors not following the practice tend to be in less agreement among themselves but, on the whole, tend not to favor the practice.

Edited comments from some of the editors following the practice are: "Establishes priorities of ideas or work. Exhibits publication lag;" "Makes clear that the editor is adhering to order of receipt;" "Protection to author;" "Date is an aid to the historian;" "Important for morale." "A few authors

Table 1

Relation between opinions as to "Desirability of Publishing Date of Receipt of Manuscripts" and opinions as to the "Importance of the Issue"

OPINION TOWARD IMPORTANCE OF ISSUE	OPINION TOWARD DESIRABILITY OF THE PRACTICE					Total	
	Strongly Disagree	Do Not Favor	Indifference	Favor	Strongly Favor	No.	Per Cent
Very important					40	40	18.4
Important		2		50	46	98	45.1
Of little importance	2	1	23	35	4	65	30.0
Not important	2		11	1		14	6.5
Total	4	3	34	86	90	217	100.0
Per Cent	1.8	1.4	15.7	39.6	41.5	100.0	

fear being scooped, so publishing date sets their minds at rest."

Edited comments from some of the editors *not* following the practice are: "I am willing to trust the editors to be fair and to allow them freedom to schedule in terms of economy;" "As a contributor, I have confidence in the fairness of editors. As an editor, I would not like to start this practice;" "Question of priority in psychology is seldom of importance;" "I doubt if the cost justifies the practice;" "I never could see a valid reason for it;" "I have never known a case where a question of priority in research has been raised;" and "I feel that it eliminates a lot of misunderstanding if dates are not included so the authors are not aware of when other papers were received."

Edited comments from contributors who do not believe date of receipt should be published are: "I can't see any good reasons for or against the prac-

tice;" "Ideally science is a cooperative enterprise; practically, it can be. Priority claims are inconsistent with the ideal and its attainment;" "We assume the editors will use good and fair judgment;" "Have never known of the information being used when it was present nor needed when it was absent;" "Editors should not be shackled by restrictions of any variety;" "I assume the honesty of editors;" and "There are no priority problems in psychological research at present."

Edited comments from a small number of an avalanche of supporters of "date of receipt" are presented here, grouped roughly in terms of content: "Enables reader to give credit to investigators when two announce discoveries but one, usually a professor, gets priority and the other, usually a graduate student, must wait longer for publication;" "I want to see 'the little man' get his chance. The lid will blow in high places unless this perfectly fair practice is followed;" "It means a great deal to me to be assured that no favorites are being played;" "Keeps pressure on editors to be efficient and fair;" "I campaigned for this as far back as 1926;" "In the old days, an editor's personal manuscripts and those of his friends were given immediate publication and carried no date;" and "A check on editorial discrimination."

"I like to have a public check on editorial delay;" "I favor an open and above-board policy about everything;" "Protects author's priority;" "It gives all readers a check on lag;" "Publication lag is markedly different in different journals. If all journals printed dates of receipt a contributor could better determine where to send an article for quicker publication."

"Protection of writer against charges that he omitted, deliberately or otherwise, references or other work, bearing on the subject, which, however, came out only *after* receipt of original mss.;" "Protects and improves the historical record of research;" "When questions of priority in discovery occur they generate a good deal of heat. A factual record helps to end controversy;" "If an author has submitted an article to a journal with a one year lag in publication and in the meantime lectures on its content, a clever and quick person may publish the content as his own in another journal with shorter lag. I know of such instances;" and "It helps a researcher establish completion of publishable materials as an aid to getting supporting grants. When a committee on grants is favorably disposed, but still wavering, evi-

dence that a paper has been accepted as of a given date may produce favorable action. This happened to me recently."

SUMMARY

1. The practice of publishing with an article the date of its receipt was begun, in 1926, in *Gen. Psychol. Monogr.* This practice spread immediately to three other journals. To date only eight journals in psychology and closely allied fields follow this practice. Two began the practice and later discontinued it whereas sixteen do not follow this practice.

2. In an attempt to determine how contributors to journals in psychology and allied fields feel about this question, a brief questionnaire was sent to 231 contributors. A total of 217 returns was received. This is a 94 per cent return without use of follow-up letters.

3. Four-fifths of the contributors responding favored or strongly favored the practice. Nearly two-thirds believed the issue to be important or very important.

4. Analysis of responses of past or present editors of journals following the practice and of those not following the practice suggests that the former are acting in line with the expressed wishes of the vast majority of contributors whereas the latter are out of step with their contributor-constituents.

5. Edited comments of both groups of editors and edited comments selected to reflect the range of views of contributors are quoted. These give a word picture of the reasons for and against the practice.

6. The statistics as gathered and the comments as quoted will provide editors with a guide to the pulse of opinion of contributors to our journal and monographic literature on this one specific issue of publication policy.

Across the Secretary's Desk

THE SELECTIVE SERVICE ACT OF 1948

The country is preparing for another draft. Machinery is being set up to register young men between 18 and 26, and to induct a portion of them for 21 months of active military duty. With experiences, sometimes unhappy ones, under the Selective Service Act of 1940 still fresh in memory, representatives of military services, government agencies, and scientific associations have been meeting in Washington trying to plan procedures to make the new law work for the best interests of the whole nation. How the law will influence the continuity of scientific work and the flow of students into the sciences has been one of the major concerns in these discussions.

A major purpose of the new law is to have a group of men prepared for military duty if rapid mobilization becomes necessary at some time in the future. In the event of such mobilization, most scientists would serve either as civilians (in industry, in research, or with the armed services), or as commissioned officers. The best preparation of most of these men for future mobilization is, therefore, scientific work and not military drill.

In writing the law, Congress gave at least partial recognition to this reasoning by including a policy declaration "that adequate provision for national security requires maximum effort in the fields of scientific research and development." Congress further authorized the President to defer any scientist whose activity "is found to be necessary to the maintenance of the national health, safety or interest." Blanket deferment of scientists (or any similar category) is, however, not allowed; each person must be considered individually.

However the provisions of the act work out, psychologists will probably be treated in the same way as other scientists. Every draft I have seen of a definition of *scientists* or of a statement concerning their relation to selective service includes psychologists in the list of scientists.

Since draft quotas will be small for the next few months; since some provisions are made for the occupational deferment of scientists; and since many of them are exempt because of previous military service, there is fair reason to believe that few scientists will be inducted within the next few months. Efforts

can be made to see that these few are used in fields related to their scientific specialties.

The act will not immediately affect college students. The first induction date will not occur until after the opening of the fall term. The law provides that any full time college student who is ordered to report for induction during an academic year can have this induction postponed until the end of the academic year or until he leaves or is dropped from college.

In considering the possibility of deferment for the entire college period (which the President has the authority to direct), the representatives of scientific societies who have been involved in these discussions have almost unanimously agreed that it would be unwise to defer science students without deferring students in other fields. If selective service procedures continue for several years, the effects of diverting into scientific fields a large number of students whose primary interests lie elsewhere might profoundly change our future educational and cultural patterns.

The Selective Service Act of 1948 is a temporary measure, limited in operation to two years. Nevertheless, its provisions are important for the future. The Selective Service Act of 1940 was also a temporary measure. But it was extended and served for the induction of millions of men for World War II. If selective service continues for some years to come, the act of 1948 may well be the law under which inductions continue to be made. Therefore in establishing procedures for the present, it is necessary to consider how they will work over a period of years. It is also necessary to consider the precedents they will set in case of full mobilization and a possible national-service law. Unfortunately, from the standpoint of making long-range plans, this is an election year. Long-range planning may be impossible until some time in 1949. For the present, draft quotas will be small, college students will be deferred until next summer, and the effects of the Selective Service Act on American science will not be great between now and June, 1949. After that date, the effects will depend upon the policies that can be established within those months.

—DAEL WOLFLE.

Psychological Notes and News

The Twelfth International Congress of Psychology was held at the University of Edinburgh July 23-29, 1948. The setting was inspiring—the historic Castle on its rock above us, the gray stone, rather grim buildings, the gay Princes Street and the austere, old quadrangle of the University. The weather as usual in Scotland was temperamental—rain and cold, followed by warmth and some sunshine. The appearance of the sun seemed to be an event to the natives, for an enterprising local reporter attempted a Gallup poll of the members as to their opinion of the sudden change in the weather.

The Congress was opened on the morning of the 23rd by an address of welcome by the Vice-Chancellor of the University and a reply by the Permanent Secretary. Then followed the presidential address, entitled "Scottish Psychology since Hume." The President, Professor Emeritus James Drever, was ill and could not attend any of the meetings. His address was, therefore, read by his son, Professor James Drever, Jr.

There were thirty-eight sessions, with four to five sessions running parallel and distributed over three full and three half days. The papers covered all the fields of psychology. The sessions included symposia on Prefrontal Leucotomy, Group Tensions, Parental Unconscious, Psychology in Government Work, and Primary Social Attitudes.

In addition to the papers there were three evening lectures: "La préfiguration dans les données sensorielles, de notre conception spontanée du monde physique" by A. Michotte, "Challenge to Experimental Psychology" by F. C. Bartlett and "American Psychology To-day" by H. S. Langfeld.

A dinner was given to seventy members of the Congress by the Secretary of State for Scotland in the banquet room of the Castle. There were also two receptions, one by the Vice-Chancellor of Edinburgh University and one by the Lord Provost (mayor) of Edinburgh, and a garden party which was held in the grounds of the hostels. At the Lord Provost's reception there was singing and Highland dancing, including the famous sword dance to the music of a bagpipe.

There were 658 persons in attendance, 451 members (292 men and 159 women) and 207 associates (78 men and 129 women). They were distributed according to countries as follows: America (U. S.) 61;

Austria 1; Belgium 21; Brazil 3; Canada 4; Ceylon 1; Chile 1; China 2; Denmark 8; Egypt 17; Finland 3; France 33; Germany 9; Great Britain 378; Holland 24; Hungary 6; India and Pakistan 29; Italy 6; Jugoslavia 1; Luxembourg 1; Norway 12; Poland 4; Portugal 1; Roumania 1; South Africa 2; Spain 2; Sweden 17; Switzerland 5; Syria 2; West Indies 3.

The International Committee met twice. The following members attended: H. Piéron, Wynn Jones, Mario Ponzo, L. L. Thurstone, Leonard Carmichael, Wolfgang Köhler, Stefan Baley, T. H. Pear, A. W. Wolters, Henri Wallon, Jean Piaget, David Katz, Gustav Kafka, R. H. Thouless, F. C. Bartlett, A. Michotte and H. S. Langfeld.

The members who have died are: F. Aveling, Ch. Blondel, E. Bonaventura, B. Bourdon, J. McK. Cattell, Ed. Claparède, R. Dodge, H. Foucault, P. Janet, J. Jastrow, F. Kiesow, O. Klemm, K. Koffka, K. Lewin, F. Leuba, W. McDougall, C. S. Myers, P. Ranschburg, F. Seracky, C. Spearman, I. Spielrein, W. Stern and M. F. Washburn.

The new members elected are: R. Anderberg (Upsala), J. Elmgren (Goteborg), R. Meili (Zurich), J. Nuttin (Louvain), R. Knight (Aberdeen), D. W. Harding (London), F. MacNeill (Manchester), G. Humphrey (Oxford), J. Drever, Jr. (Edinburgh), F. Banisconi (Rome), A. Marzi (Florence), D. Lagache (Paris), G. Poyer (Paris), M. Debasse (Strasbourg), P. Fraisse (Paris), J. v. Allesch (Göttingen), Th. Erisman (Innsbruck), G. Révész (Amsterdam), F. Buytendijk (Utrecht), J. Germain (Madrid), J. I. Lasago (Havana), E. Mira y Lopez (Rio de Janeiro), H. Cantril (Princeton), O. Klineberg (Columbia), B. F. Skinner (Harvard), D. Wolfe (Washington), E. Tolman (California), D. Marquis (Michigan), C. Graham (Columbia), M. Viteles (Pennsylvania), N. Mäki (Helsinki), V. Coucheron-Jarl (Oslo), A. Luria (Moscow), R. Bujas (Zagreb), T. Vana (Prahá).

H. S. Langfeld will continue as Permanent Secretary and J. Piaget was elected Assistant Secretary.

It was voted unanimously to hold the Thirteenth International Congress at Stockholm in the summer of 1951.

The success of the Congress was due to the untiring efforts of Professors Godfrey Thomson, James Drever, James Drever, Jr. and their local Committee.

—H. S. LANGFELD.

Douglas McGregor, formerly head of the department of psychology at Massachusetts Institute of Technology, has accepted the presidency of Antioch College.

Leo P. Crespi of Princeton University has taken leave of absence to become Chief of Opinion Surveys for the Office of Military Government in Germany. Communications to him should be sent to ICD-Opinion Surveys OMGUS (Rear) APO696-A.

Walter N. Durost, director of the division of research and test service of World Book Company since 1937, has been appointed associate professor of educational measurement in the School of Education, Boston University. He will continue with the company as test consultant.

Roger T. Lennon, who has been with the publishing house of Declan X. McMullen as general manager since 1946, will succeed Dr. Durost at World Book Company.

Ray Bixler, now with the Minnesota Psychiatric Institute, has accepted an assistant professorship in clinical psychology at the University of Louisville.

Maurice L. Farber, formerly of New York University, has joined the staff of the University of Connecticut as assistant professor.

William D. Turner has been appointed dean and professor of social relations at the School of Social Work of the University of Pennsylvania.

James W. Bagby, Jr. has been appointed a Lieutenant for duty as a psychologist in the Bureau of Medicine and Surgery, Navy Department, Washington, D. C. He was formerly in private practice.

William H. Angoff of Purdue University has accepted a position with the Naval Research Program at Long Island, New York.

Emmy A. Berger, formerly of Vassar College, has accepted the position of project director with the Research Center for Group Dynamics at the University of Michigan.

Arthur Burton, formerly of Willamette University, is now the chief psychologist at Agnew State Hospital, California.

Frank J. Harris of Purdue University has accepted a position with the Division of Commissioned Officers, U. S. Public Health Service.

Irwin Katz of Stanford University has accepted a position as assistant professor at the University of Buffalo.

Richard W. Kilby has accepted a position as assistant professor at San Jose State College. He was formerly at the University of Denver.

Irving Lazar of the University of Pittsburgh has accepted a position as instructor at the University of Rochester.

Ewing Lakin Phillips has accepted a position of assistant professor at George Washington University. He was formerly at Macalester College.

The University of California at Los Angeles has announced the following changes in the staff of the department of psychology: Roy M. Dorcus asked to be relieved of his administrative duties as chairman of the department, and Marion A. Wenger has been appointed to succeed him. Richard Centers of Rutgers University, James F. T. Bugental of Ohio State University, and John S. Helmick of Stanford will join the staff in the fall.

During the two summer sessions of 1948, the following visiting professors offered courses in their specialties: James C. Coleman, Harry F. Harlow, Thomas W. Harrell, Daniel Katz, Fred S. Keller, E. Lowell Kelly, Howard S. Liddell, and Karl Zener.

Norman Munn addressed the Australian Branch of the British Psychological Society on the topic, "Current Trends in American Psychology," on July 23 in Adelaide, South Australia.

The U. S. Navy Electronics Laboratory announced that summer appointments as consultants had been accepted by **J. C. R. Licklider** of the Psycho-Acoustics Laboratory at Harvard and **Abraham Pepinsky** of the department of psychology at Haverford College.

Carlyle Jacobsen, dean of the division of health sciences, State University of Iowa, and Leo B. Bartemeier, associate professor of psychiatry at the Wayne University College of Medicine, have been appointed

to the National Advisory Mental Health Council. This body of six leading medical and scientific authorities on the study, diagnosis, or treatment of psychiatric disorders advises and makes recommendations to the Surgeon General on matters relating to the activities of the Mental Hygiene Division of the Public Health Service.

The Committee on the Clinical Training of Psychologists of New York, with Simon H. Tulchin as chairman, has announced that fellowships for the academic year of 1948-49 have been granted to B. S. Alimena of Fordham, Mrs. A. J. Davidson of City College of New York, Mrs. N. D. Fieldsteel of Teachers College, Columbia, and M. Handler of New York University.

The Illinois Association for Applied Psychology will meet in Chicago, Illinois on October 20, 1948. For information, write to Milton A. Saffir, Secretary, 55 E. Washington St., Chicago 2, Illinois.

1947 subscribers to Clubs A and C of APA journals have recently received *Applied Psychology Monograph* #16 and will receive #17 as soon as printing is completed. Although these monographs actually appeared in 1948, they are part of the volume which was subscribed to by the 1947 club groups.

The first issue of the 1948 volume of *Psychological Monographs: General and Applied* is not out yet. It will be sent to 1948 subscribers when it is printed. The 1947 volume of *Psychological Monographs* has been completed.

The U. S. Civil Service Commission has announced a research psychologist examination (Announcement No. 121) at salaries of \$3,727 and \$4,479. Applications must be received by November 9. Higher-grade positions are continuously "open."

The *Fulbright Act* has made it possible for some psychologists, as well as members of other disciplines, to study, teach, or conduct research in several foreign countries. The *Fulbright Act* authorized the Department of State to use a portion of the foreign currencies resulting from the sale of surplus property abroad for educational activities with foreign countries. Arrangements have been completed with China, Burma, Greece, and the Philippines and are being negotiated with Australia, Austria, Belgium, Egypt, Finland, France, Hungary, Iran, Italy, the

Netherlands, the Netherlands East Indies, New Zealand, Norway, Siam, Turkey, and the United Kingdom. Fulbright scholarship money is available only in the currency of the country with which the arrangement is made. Persons seeking such scholarships will therefore have to make their own arrangements for funds to meet any family or other obligations they have in this country during the period of scholarship.

Under the provisions of the *Fulbright Act*, scholarships may be made available for Americans who may be selected to aid in the educational reconstruction of foreign countries. Anyone interested should write to the Executive Secretary, Committee on International Exchange of Persons, Conference Board of Associated Research Councils, 2101 Constitution Avenue, Washington 25, D. C.

Research fellowships in psychometrics at Princeton University, paying \$2,200 per year, are available for candidates for the PhD degree. Applications for 1949-50 must be received not later than January 15, 1949. Apply to Director of Psychometric Fellowship Program, Educational Testing Service, Princeton, New Jersey.

Clinical psychologist, Utah. Merit examinations will be given for clinical psychologists in the State of Utah. Requirements: MA or its equivalent, with appropriate specialization; and one year of supervised experience. Salary range, \$325 to \$375 per month. Apply to Leray S. Howell, Merit System Supervisor, 428 Atlas Building, Salt Lake City 1, Utah.

Clinical psychologist and administrator, New Jersey. A staff including a psychiatrist, a clinical psychologist, and a psychiatric social worker is being sought for a new child guidance clinic, under the community sponsorship of the Oranges and Maplewood in New Jersey. Events which preceded the founding of this clinic were described in the *Saturday Evening Post* of August 7, 1948, "The Case that Rocked New Jersey." The salary range for the clinical psychologist has not been set, but an able person is wanted. He may also serve as administrator of the clinic, in which case the salary would be increased. Apply to Paul G. Cressey, Director of the Social Welfare Council of the Oranges and Maplewood, Orange, New Jersey.

"This is truly a pioneering book which describes in detail one of the most important group experiments ever conducted . . ."—*Survey Graphic*

"... It is tempting to say that the volume is a breach of national security since it is potentially so useful."—*Saturday Review of Literature*

"I regard it as the most significant book in psychological measurement in at least ten years."—*Prof. Lee J. Cronbach, University of Chicago*

ASSESSMENT OF MEN

by the OSS Assessment Staff

ONE OF THE MOST FASCINATING INSIDE STORIES of the last war is told in this startling study of how the Office of Strategic Services selected the personnel who carried out its tough assignments . . . men and women who *had* to be utterly dependable, psychologically stable, and able to maintain complete presence of mind under the most trying circumstances.

ALTOGETHER, 5,391 CANDIDATES were put through a series of intensive mental and physical examinations, conducted by a group of eminent psychologists and psychiatrists. Living together and with the staff, the applicants' individual and group capacities were tested for the first time in the United States by procedures based upon the principles of *organismic* or Gestalt psychology. Ingeniously devised "stress situations" as well as obstacle courses and mental problems were put to the candidates. Reactions both during and after each test as well as personality indications were under constant scrutiny by the assessment staff.

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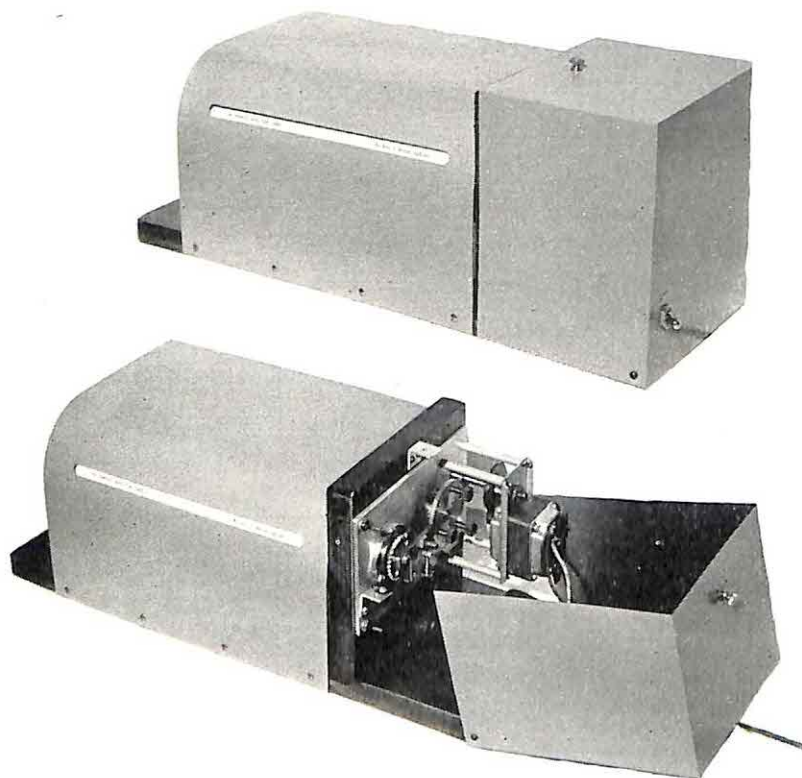
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DONALD G. MARQUIS
Professor of Psychology, University of Michigan
President of the American Psychological Association, 1948

RESEARCH PLANNING AT THE FRONTIERS OF SCIENCE¹

DONALD G. MARQUIS

University of Michigan

PSYCHOLOGY today faces a task of a different order from any before. During its brief period of development it has been relatively free to grow at its own pace and in self-chosen directions. Nurtured by steadily expanding college enrollments and with occasional odd-jobs in industry and the clinic, psychology developed its methods, facts, principles and technical skills to a point that enabled it during the crisis of the last war to join with the older sciences in making a significant and effective contribution to the common goal. Psychology has demonstrated its maturity; it can now expect to be called upon to assume the responsibilities of an adult science.

The nature of these responsibilities is now being made clear. Many of the crucial problems facing our society are problems of human relations and social organization. The great advances which have been made in industrial production, in transportation and in communication do not by themselves guarantee the general welfare—indeed, they create such rapid changes in our way of life that the traditional trial and error methods of social adaptation are totally inadequate. Critical gaps in our knowledge are found in mental hygiene, in designing machines with respect to their operators, in industrial relations, in minority tensions, in educational methods, in social and political organization, and in military defense. Leaders in various activities, impressed by the achievements of science in physical and biological fields, are asking what science can contribute in the psychological and social fields.

The call for new knowledge of human relations is not just a rhetorical call—it is backed up by money and other support. The great philanthropic foundations such as Carnegie and Rockefeller have deliberately allocated a larger share of their resources to research in the social sciences. And the national government has called for tremendous expansion in this field. Every one of the federal departments with the exception of the Post Office is now support-

ing research on human behavior. The Veterans Administration and the U. S. Public Health Service are spending between two and three million dollars annually in developing the field of clinical psychology through fellowships, hospital and clinic positions, research funds, and training grants to universities. The Departments of Army, Navy and Air Forces, now the biggest customers for research of all kinds, have budgeted between 6 and 7 millions this year for studies in psychology and social science which are being carried out partly by military research agencies and partly by contract with university departments and research institutes. There is good reason to believe that the total level of support will have to be doubled or trebled before the clearly recognized needs of the nation will be even approximately met.

This general picture might be considered a source of gratification except for one reservation: there is no guarantee that we can deliver what is expected. Our resources of research know-how are concentrated in the older and better established areas of science while the call now is for knowledge in the less explored fields of human relations and social behavior.

In the title of this paper I used the phrase "frontiers of science." Although all research is by definition at the frontier of knowledge, it seems to me that science itself has a frontier. The scientific method first became clearly established in astronomy, physics and mathematics, and later was extended into biology, agriculture, medicine and psychology—encroaching on areas formerly considered the province of philosophy, religion or practical common sense. In the span of our own lives we have seen this frontier move through the field of psychology. Many of us learned the method of science in studying biology, physics or physiology and brought it to bear on problems of psychology. As late as the decade of the 1920's the most methodologically defensible research was done in the related areas of comparative, sensory or physiological psychology. The frontier has now passed through the areas of learning and of mental abilities and may be recognized somewhere in the fields of interpersonal

¹ Address of the president of the American Psychological Association at Boston, September 9, 1948.

relations and social psychology, with extensions into anthropology, sociology, economics and political science.

Let us recognize clearly that frontier research is not easy. A useful contribution in the field of human relations will loom large in relation to the present meager level of verified knowledge, but it is not a simple thing to achieve. The eager researcher finds no adequate structure of theory to guide his inquiry; not even a terminology with commonly accepted meanings. He is thwarted by the lack of standard measurement techniques for the relevant variables, and dismayed at the absence of even the simplest kinds of taxonomic data on the materials of his study. The scientist who would forsake the security of a well established research field with the prospect of one sound publication a year must have a certain amount of courage or else a full professorship.

It is not surprising to find that the quality and the product of research in frontier fields appears relatively inferior. Although hundreds of competent individuals are publishing thousands of books and articles each year, one cannot escape the impression that it does not always add up to any very clear and usable result. The intriguing problems are so numerous and diverse that research effort becomes scattered rather than focused. And the individual researches are difficult to put into a cumulative integrated structure because the concepts used are not the same, the observational data are not commensurate, and the samples studied are not chosen or described in such a way as to permit combination.

I can find no reason to doubt that steady progress will continue to be made in the research fields which are now being initially explored. Eventually certain concepts will come into common use, definitions and measures will become more standardized, and a coherent body of knowledge will be built. For those who are content to wait patiently for the inevitable blossoming of the science of human relations I have nothing more to say. For those who share my feeling that the urgencies of our contemporary society demand an accelerated rate of scientific advance I propose to discuss some possible steps toward its achievement.

Scientific progress can not of course be speeded up by command nor by exhortation, nor even by money alone. If the number of scientists and the amount of financial support were doubled there would be twice as much of what we have now, but that may not be enough to keep pace with the needs of our

swiftly changing society. And since there are very definite limits on the rate of training additional research experts, it becomes imperative to examine any other possible means of increasing the effectiveness of scientific work. It is my thesis that more attention to planning can greatly accelerate the rate of development of frontier research.

Research planning can be carried out at different levels. I would like to distinguish three levels which I will call experimental design, program design and policy design. Experimental design is the planning of a single specific project. Program design is the planning of an integrated set of projects focused on a central problem. Policy design is a new word for overall planning of the distribution of effort among programs, areas or fields. Planning at the first or project level is a universally accepted requirement of scientific method—it is what distinguishes an experiment from objective openminded common sense observation. In the past decade, following R. A. Fisher's monograph (3), we have all become very much aware of the design of experiments, and statistical method is now taught with as much concern for the planning of research as for the analysis of collected data. Psychologists have shown an unusual interest in and capacity for experimental design. Among the younger members of the profession at least we find widespread sophistication on tests of significance, methods of drawing a sample, null hypothesis and factorial design. You can seldom catch a psychologist without an estimate of the error variance.

At the other end of the scale is the level of policy planning of the broad directions of scientific effort. Psychology and the other sciences have had little experience with this type of planning. General trends in the growth of a science have been the complex resultant of a multitude of individual decisions by scientists about their own work, influenced unsystematically by social needs and pressures such as university policy and available financial support.

There is clear evidence now, that with the growing recognition of the relevance of scientific research to national welfare, the major agencies of research support are assuming responsibility for policy planning. Foundations have always distributed their funds in a pattern designed to stimulate work in certain fields. We have seen the valuable results in psychology of the support of child welfare research institutes during the 1920's. Industrial associations,

pharmaceutical firms and organizations such as the cancer or infantile paralysis funds also operate to expand research in selected areas, but so far have had only incidental influence in psychology. The most important planning agency now is the federal government. As it assumes a larger and larger share of the support of scientific research, it establishes planning boards to make sure that funds are allocated wisely. The Office of Scientific Research and Development, created during the last war, undertook responsibility for allocation of money and personnel to the several objectives of the national effort. The OSRD is now succeeded by the Research and Development Board, under the chairmanship of Vannevar Bush, with the task of planning an overall research program for the Army, Navy and Air Force. One of the 15 committees of the Board is the Committee on Human Resources, covering the field of psychology and the social sciences. During the past year the Committee, through its central staff and its numerous advisory panels, has surveyed the current national research activities and has recommended an expansion and redistribution of research effort designed to contribute maximally to both the immediate and the long-range needs of the country. Other evidences of national planning are found in the Bush report (2), and in the report last year by the President's Scientific Research Board (7), and in the recent appointment by the President of an Interdepartmental Committee for Scientific Research. If and when Congress eventually approves the creation of a National Science Foundation there will be an agency with authority and responsibility for planning on an even broader scale.

I do not propose to discuss the procedures or the desirability of policy planning. With the growing tendency toward centralization of research support in federal funds, it is inevitable that allocation of such funds must be made on some basis. At the present time there are no adequate objective procedures for evaluating programs or fields of research, and the most we can expect is that scientists will participate in policy decisions on the distribution of funds. I hope that a few years hence someone will address you on the subject of the criteria and methods of research policy design—but it cannot be done today.

Between the level of experimental design and policy design there is a large gap which neither of them can fill. Policy planning, by virtue of its breadth, can not be a specific guide to actual re-

search. Experimental design, on the other hand, is concerned with the investigation of a restricted question and cannot be a guide in choosing the most significant problems for research attack. I believe that the greatest present need for planning exists at this intermediate level which I call *program design*, and I believe that by exploiting this type of planning we can accelerate the development of frontier research in areas critical for human welfare.

By program design I mean the planning of an integrated series of research activities, focused on a central problem, and involving a number of scientists for several years. This is not, of course, an original idea. There have been outstanding examples of good program design in frontier research, but they are few. Usually they are found in the work of an investigator who keeps his eyes steadily on a central problem throughout his lifetime. One thinks immediately of Ebbinghaus's studies of memorizing, of Pavlov's work on conditioning, of Terman's research on intelligence, of Thurstone's analysis of human abilities, of Hull's and Tolman's programs in rote learning, of Maier's work on reasoning, of Kurt Lewin's studies in group organization. The fruitfulness of such integrated programs of research is what convinces me that it would be worth while to study the characteristics of program design so that the procedure could be more widely used.

I do not believe that it takes a genius to design a research program, nor is it necessary to wait for that rare flash of scientific insight. An example from another field of science may indicate more clearly what I mean. In meteorology there is no theory comparable to that in physics or chemistry. It is conceivable that hundreds of students of weather could carry out in their individual laboratories and field stations a multitude of little unrelated studies. One of them would clock the sunrise in Central standard time; another would report the movement of the moon in Eastern daylight saving time; one of them would record wind velocity on a 7-point descriptive scale; another would devise a windmill gadget and report velocities in reliable but arbitrary units of revolutions per minute. One would study temperature in Albuquerque, another rainfall in Cheyenne. In spite of all the diligence and individual ingenuity of this earnest band of researchers it would be a slow and wasteful process to accumulate useful meteorological knowledge. But because the problem is sufficiently important, the meteorologists have gotten together and agreed to collect

commensurate data by standardized methods in all parts of the world. With these data available there has been steady growth in theory and in the accuracy of prediction. This is an extreme example. In most frontier fields it may not be possible to undertake so comprehensive a program but rather to have many programs proceeding simultaneously, each large enough to provide an adequate test of the conceptual theory involved but permitting several alternative approaches to the same general problem.

What, then, is the essential feature of program design? It is the attempt to plan a comprehensive, integrated series of studies in relation to a particular set of concepts focused on a central problem. It is the attempt to broaden and lengthen the scope of a research sufficiently so that we can tell whether it is really getting anywhere. It is scientific method in its full and complete form. I shall list six steps in program design. The temporal sequence of the steps is not fixed although there is a natural order.

1. The first step may be called *problem formulation*. In the selection of a problem there appears to be no restriction on the kind of topic which can be attacked scientifically. "The religious attitudes of middle-west farmers" is as acceptable a problem as the limits of their visual sensitivity. There are, however, two important limitations governing the formulation of a problem for scientific study. The first is that a value proposition cannot be verified by any present scientific methods. It is necessary therefore to separate the value assumptions from the factual propositions which can be investigated. Most of the problems arising from the practical situations of living come to us with a mixture of value and factual questions. We cannot, for example, test the proposition that spaced practice is better than massed practice. Analyzing this problem into its components, we formulate the proposition that spaced practice results in more rapid learning than massed practice, and we do not examine the question of whether rapid learning is desirable or not. Such analysis of a problem poses few difficulties in physical and biological science but is a frequent source of confusion in dealing with topics like labor relations, race prejudice, and therapy.

A second limitation on the scientific method of inquiry is that the phenomenon under study must exist in replication. There is no known method by which a single unique event can be the subject of research. If we are interested in what appears to

be a unique situation, such as the explanation of the suicide of a particular individual or the form of organization of the world state, it is necessary to reformulate the problem in terms of those aspects of the situation which can be identified in several instances. This is a serious limitation on the scope of scientific investigation and one which is not completely accepted by all persons who become interested in the significant and real problems of practical life.

2. The second step is *review of knowledge*—of what has been learned or said by others about the topic. The library is the usual source of this material but personal informants are often utilized, for example, in anthropological field work. Although this step is clearly recognized by everyone, the difficulties of achieving it are becoming serious as a result of the tremendous growth in the literature of every field. Abstract journals, bibliographies, summaries and reviews are important aids in this respect and should be extended into frontier fields more adequately than at present. If research is organized into programs it becomes feasible for each to undertake a comprehensive review of current knowledge, and the Office of Naval Research has recognized this need in arranging contracts which include specific provision for literature summaries.

3. The third step is *preliminary observation* of the events under study. This may be quite unstructured observation which enriches the second-hand library knowledge and suggests new leads for investigation. It may also be more controlled observation in the nature of trying out methods of measurement, formulating codes for classification of data, identifying sub-samples of the population and pretesting promising hypotheses. In its most developed form it may be methodological research—a comparison of two or more ways of describing, measuring or scoring the phenomena. A variety and diversity of observational methods is desirable at this point in order to explore most fruitfully the best possible ways of formulating and categorizing the data.

4. The fourth step is *theory construction*—the formulation of specific and rigorous hypotheses for subsequent test. Now the investigator draws upon everything that he has learned from his review of previous work and from preliminary observation. While theory construction can sometimes be achieved in the comfort of the armchair, I do not want to

imply that it is easy or routine. It is indeed the crucial test of the creative scientist.

I think we are beginning to realize more clearly that a theory, to be useful, must be built around concepts which have specific and unequivocal relation to empirical observation and measurement. Only in this way can theory be verified. Most of what we have called theory in the new fields of psychology has not been of this type. Our theories have a long life span of controversy because of the difficulties of testing them. Their concepts are not such as can be identified or measured. They were invented on the basis of a priori considerations rather than being abstracted from empirical study and as a result, they do not lend themselves to unequivocal test. It is certainly typical, and perhaps inevitable, that the first theories in a new field, since they aim at broad understanding, are speculative and untestable. Man's desire for explanation does not permit a vacuum in his comprehension of the world. Hence the crystal spheres theory in astronomy; the earth, air, fire and water theory in physical science; the demonological theory of mental disease; the social contract theory of the state; and the instinct theory of human behavior. In the history of science it has usually been necessary to abandon such theories completely rather than to try to modify them to a form which permits testing. We can perhaps accelerate the long-range development of scientific knowledge in frontier fields by emphasis upon the construction of theory out of empirical or operationally-defined concepts. Such theories will necessarily be limited in scope. It is inevitable that the most useful theories will, for some time to come, be small conceptual systems dealing with a restricted range of phenomena.

5. The fifth step is *verification*—the testing of the hypotheses or of deductions from them. If our concepts have been properly chosen and if methods of measurement have been devised, we find adequate guides for verification in our present knowledge of statistical methods. This step in program design is the one which has received the most extensive attention and while it is crucial for science, it is not the primary topic of my discussion. Perhaps the most frequent present limitation in the verification stage is found in the selection of a population for study. Too often in the formulation of a problem we fail to think through the definition of the universe to which our theory is applicable and we are apt to overlook the necessity to select a representative

sample of that universe for verification purposes. Considerations of convenience, habit and inadequate funds usually determine that the research will be carried out on any available group of college sophomores, nursery school children, or military personnel. Such studies may be very fruitful and have a definite place in the preliminary observation step. Usually, however, they cannot be made a coordinate part of a total integrated body of knowledge.

The processes of verification may take quite different forms, of which the controlled experiment is only one example. Correlation studies, comparative studies, genetic studies, surveys, intensive case studies, and field studies each have a definite place if they are relevant tests of the theory which has been formulated.

The results of the verification process do not all turn out as the theory predicted. This is not entirely unfortunate, since it provides the clue for reformulation of the theory and hence advance in knowledge. The scientist then proceeds with further tests of his revised theory and in this manner theory construction goes along with experiment and observation in a continuous reciprocal alternation.

6. The sixth and last step in program design is *application* of the verified theory. In pure research, of course, application is not involved since the results are used only to modify the theory. But pure research is rare in frontier fields and application must usually be made directly from the research results rather than indirectly through the theory. Application involves three processes itself: first is a value decision on the desired objective, second is the diagnosis of the specific situation, and third is the selection of the relevant verified knowledge and its application. Consider, for example, the clinical psychologist dealing with a client requesting vocational counseling. A decision must first be made whether a job is to be chosen on the basis of salary, status, interests or some combination of factors. Scientific theory does not determine what job the individual should take; it can only point out the probability of certain consequences of a vocational choice. The decision must be made by the counselor or, better, by the client, in reference to his value system. The diagnosis requires pertinent information about the individual and about the possible jobs. It is then possible to apply knowledge such as "the greater the congruence of a person's abilities with the requirements of an occupation, the greater

are the chances of that individual's success and satisfaction in that occupation."

This analysis makes apparent that those persons who are charged with the application of science must have two qualifications over and above their knowledge of research findings: moral responsibility and diagnostic skill. For this reason a class of professionals is created whose long careful training helps to insure effective application of science. The steps in application are usually not very explicit or clear and merge together in what we often call the art of psychological practice. But it seems clear to me that advance in professional psychology will come only with the development of verified theory and of techniques for diagnosing specific situations to determine when the theory is relevant. A complete program design must therefore take account of these needs and make provision for effective application of its results. It is not enough to establish the fact that training first-line supervisors in human relations will result in improved employee morale. If application is to be successful the research program should include studies of the acceptability to management and to unions of supervisor training, and manuals for the training itself. If the nature of the optimal training is different in different situations, there must be diagnostic measures for identification of those situations.

Here, then, is the pattern of program design—the strategy which supplements the tactics of research planning. Its objective is to promote in the undeveloped frontier fields of research what comes naturally in well-established fields. The distinction I am making between effective research and less effective research is not based on the field or topic or practical significance, but only on the basis of its potential incorporation into the body of scientific knowledge. Some studies become a part of the developing science; others are not only forgotten but they leave no trace of any influence. Science can well afford to support work on wild guesses and bizarre hunches, but it cannot afford the wasted effort of indeterminate research—the kind which is not carried far enough to find out whether it is any good or not. If a particular research project cannot be clearly related to an existing body of rigorous concepts and theory—and this is the defining condition of frontier research—it is then necessary to design and carry out a program of research. Any-

thing less is apt to join the company of incomplete and forgotten research.

The responsibility for program design falls clearly on the original researcher. Often a suggestive study ends with the statement that "present results are inconclusive and it is hoped that future investigation will throw more light on the problem." I have not made a tally, but I suspect that in nine cases out of ten no other researcher will take up the challenge.

It may be worth while to look briefly at some of the characteristics of research which does not fulfill the criteria of complete program design. Such research is often distinguished by exceptionally competent achievement of one of the six steps in program design but is incomplete with respect to one or more of the other steps. There are certain types which occur frequently enough so they are easily recognizable.

One of these, which I might call *wisdom research*, concentrates on steps 2 and 3, with thorough library study combined with first-hand experience and unsystematic observation. This paper is an example of what I mean and many of the essays and books in anthropology, sociology and political science are of this kind. I do not mean to imply that they are not worth while, but only that as science they are incomplete. Such studies are valuable guides to immediate understanding and fruitful sources of hypotheses, but the absence of systematic data precludes any verification in the scientific sense. It would be unfortunate if good work of the wisdom type were permitted to block the best work of the scientific type.

Another frequent kind of incomplete program is one which fails to formulate a central problem. Although there is collection of numerous data, there is no adequate criterion to which the data can be related. We might call this *unfocused research*. For example, one might lay out an elaborate research to compare lecture with discussion methods of teaching, arranging equated groups of students, random assignment of instructors and elaborate records of teaching procedures. But what will be the criterion of better teaching? It will probably turn out that the students will do equally well on the final examination, at which point we protest that that is no measure of what we mean by good teaching. But unless such a measure is included in the research, the extensive data serve no function. Sometimes the failure to identify and measure the ultimate criterion is an oversight from lack of plan-

ning; more often it is just too difficult to measure as in the case of the air crew selection research program (4). But whatever the reason, we will not have adequate program design in problems such as counseling, supervisor training and leader selection until adequate criterion measures are included.

Practical research is a special case—it may be complete with respect to the specific local problem which it undertakes to investigate and at the same time be incomplete from the standpoint of its contribution to the development of science. When existing knowledge does not provide a solution to some immediate and local question it becomes necessary to try out new hypotheses. Although the new knowledge may be adequate for the solution of the specific problem, it is not usually in such form as to permit its general application. For example, the research division of company A may find out that music during the morning rest period in the shipping department results in increased output. This finding is all that is necessary to answer the particular problem, but its application beyond that department is limited. There is no basis for diagnosing other situations to determine which ones would be similar and which different.

The distinction between practical research and theoretical or pure research is a matter of degree—the degree of generality of the results. Theoretical research often finds useful practical application, and there is no necessary reason why practical research should not have theoretical significance. But theory is always general, and practical research can contribute to theory only if deliberate design provides adequate statement of the variables in general terms and verification with samples that can be related to known general universes.

Descriptive research is another example of incomplete program design. A full, accurate, unbiased record of observations is of course desirable, but it does not constitute the ultimate objective of research. Examples of descriptive research are often found in clinical case studies, community studies and public opinion polls. Such data are invaluable when they are collected in order to test theoretical propositions, but by themselves they represent an incomplete scientific program. It may be worth while to note the several places in program design where description is appropriate, using clinical case studies for an example. They may be useful in step 3 as a rich source of theoretical concepts and hypotheses; they may be useful in step 5 for

verification, provided that commensurate data are secured from a number of individuals; they may be valuable in step 6 as a guide to the diagnosis which is necessary for application of scientific knowledge. The further possibility that case study can be used to construct and verify a theory for a single individual has been explored by Allport (1). The necessary replication of instances is secured by observing repeated behaviors of the same individual, and this becomes an example of practical or local research.

A special case of descriptive research is that in which the investigators seem rigidly tied to a particular technique or method which is applied over and over again to new populations without sufficient regard to its adequacy for the problem being studied. There was a period which most of us can remember when this seemed to be true of animal maze research and conditioning research. And there may be some who wonder if there is similar danger in the present utilization of the Rorschach test, attitude tests, or sociometric ratings. Another evidence of rigidity in research planning comes from the habitual identification of a method with a particular kind of problem. Because a question falls in the field of clinical psychology does not necessarily mean that methods for its investigation are limited to diagnostic tests and interviews. It is encouraging to see more and more examples of the use of laboratory methods in clinical problems, of clinical methods in social problems, and of social methods in industrial problems.

Theoretical studies of a certain kind represent another type of incomplete research. Theory is an indispensable part of science but the elaborate analysis of concepts which have no clear referents in observation or measurement has limited utility in the development of a scientific body of knowledge. Such an analysis provides a systematization of a field which leads to a feeling of understanding but which carries no very clear guides for the next steps in the scientific process. An outstanding example of the highest type of theoretical analysis is found in Charles Morris' recent book on *Signs, Language and Behavior*. If I am right, his book will stand for many years as the best treatment of the subject, but the developments and changes in our theory of language behavior will find their origins elsewhere.

My last example of incomplete research may be called *critical ratio research*. There are many studies impeccable in their experimental design, unassailable

in their careful controls, ending up with a significant difference at a probability level less than .01—and not much else. I sometimes wonder if the critical ratio has been more harmful than helpful in its seductive implication that it signifies a completed research. If we find that there is a significant difference between carpenters and machinists in their attitude toward unionization, we have established a scientific fact, but what do we know? We know very little about the differences between carpenters and machinists if that is what we are interested in, and we know only a tiny fraction of what determines attitudes toward unionization, if that is what we are interested in. Perhaps it may help us to see our problems in their totality if we make more widespread use of the technique of expressing the effect of a variable in terms of the proportion of the total variance which it determines.

It should be apparent now that the burden of my thesis is that each phase or step of scientific research is essential and valuable, but that only in planned combination do they yield the kind of knowledge which becomes a part of the body of science. The pattern of total research is not easy to achieve and it involves definite compromises and limitations. In order to secure commensurate data on many instances for verification it is necessary to give up the ideal of complete description. To get a theory which is testable it is necessary to sacrifice breadth and scope. To do research which is relevant to the critical problems of practical living it is necessary to give up some degree of rigor and the security of working in the better established fields. To achieve the complete pattern of program design it is necessary to give up the desire to get a scientific answer tomorrow to problems like labor unrest, divorce, or world organization.

I would like to be able to suggest some mechanisms and procedures which would be helpful in program design. Although I have participated in planning several researches, I do not have any systematic data on the best ways of doing it. Certain procedural necessities, however, seem to follow naturally from the conception of program design.

The first requisite of program design is that projects must be planned on a bigger scale than that to which we are accustomed. They must extend over a period of years and must involve a number of investigators if they are to meet the requirements. And if they are going to deal scientifically with critical current problems they must have facilities

for the extensive collection of data on adequate samples of the population studied. Under present conditions of scarcity of research talent it is desirable to make maximal utilization of every competent researcher by the provision of sufficient assistants, clerks and technicians. In comparing several projects, I have found that it is possible to plan an effective rate of expenditure of \$15,000–\$20,000 per year for each experienced professional scientist.

A program of such size does not offer any serious problems of administration but it requires the services of a director who will coordinate the planning and the component projects in such a way that the focus of the research is always clear. The professional personnel may number three, four or five to secure a well coordinated yet diversified group. The diversity of backgrounds is a particular advantage of program research.

I am convinced that planning by a group of scientists is superior to individual planning. It seems desirable to take advantage of a variety of skills and experiences in order not to overlook any possible hypotheses and techniques. In talking with persons who have had experiences in planning, I have not found one who did not believe that the outcome of group discussion was superior to the ideas with which he went into the conference. In the planning phase the research team may be supplemented by consultants who are appointed specifically for this function. Such a procedure enables the research to take advantage of the abilities of university staff members whose teaching duties do not permit more than part time or occasional association with the project. The advantage of a diverse team of scientists will be equally clear in the preliminary observation and verification steps. The available research methods are many and no one person is master of all those which may turn out to be relevant for the research. Frontier research is frequently interdisciplinary. The traditional academic fields of knowledge are a reflection and crystallization of the work of the past fifty years, but frontier research is breaking into new problem areas.

The program design should contain a schedule of the several phases of the work. The time allotted to preliminary library work, observation, planning, methodological work, and pretesting should undoubtedly be greater than is usually allowed. In many instances this phase will be longer than that devoted to collection of verification data, and it seems reasonable to expect a research project of

the size we are talking about to spend at least a year in preliminary work. When the verification stage is once begun the concepts, measures and hypotheses are no longer changeable. A continuous project might very well plan for a recurring cycle of operations in which planning, data collecting, and application are repeated more than once. This enables each phase of the program to profit from what is learned in the other phases. It helps to guard against the occasional tragedy in which, at the end, you discover that you have failed to take account of the most important variable.

Research planning today should also make provision for the systematic training of young scientists, in view of their current shortage. Advanced graduate students on half-time assistantships and post-doctoral psychologists on well-paid internships are the most available possibilities for training. Training in program or large scale group research is not the traditional pattern for the doctoral dissertation, but I hope that graduate schools will recognize the value of such training and permit reasonable flexibility in their requirements. I shall count it a mark of distinct advance when some university awards the doctoral degree to three students who worked together to achieve a significant program of research and submitted only one thesis.

Program design, with the objectives and procedures which I have tried to outline, is not intended of course to replace individual and small scale studies. This would be impossible as well as un-

desirable. It is intended rather that an increased number of large and well planned research programs will carry the scientific development of a frontier topic to the point where theory and data can provide guides for the individual researcher and make possible the incorporation of his work in the growing integrated body of scientific knowledge. The urgent requirement for new verified knowledge of interpersonal relations and social organization calls for acceleration in the development of the frontier fields of psychology, and if we are to meet our responsibilities we must exploit every possible means of speeding this advance.

REFERENCES

1. ALLPORT, GORDON W. *The use of personal documents in psychological science*. New York: Social Science Research Council, 1942.
2. BUSH, VANNESVAR. *Science, the endless frontier*. U. S. Govt. Printing Office, 1945.
3. FISHER, R. A. *The design of experiments*. Edinburgh: Oliver and Boyd, 1935.
4. JENKINS, J. G. Validity for what? *J. consult. Psychol.*, 1946, **10**, 93-98.
5. National Resources Planning Board. *Research—A national resource*. 3 vols. U. S. Govt. Printing Office, 1938 and 1941.
6. President's Commission on Higher Education, George F. Zook, chairman. *Higher education for American democracy*. 6 vols. U. S. Govt. Printing Office, 1947.
7. President's Scientific Research Board, John R. Steelman, chairman. *Science and public policy*. 6 vols. U. S. Govt. Printing Office, 1947.

AN ANTHROPOLOGIST LOOKS AT PSYCHOLOGY¹

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AN ANTHROPOLOGIST looks at psychology as a cat may look at a king. You are more numerous and more prosperous than we. The diversity of your specialties is more imposing. The rigor of your best established method far surpasses our rough and ready skills. Some sectors of psychology have developed at least the beginnings of true scientific theory, whereas our most successful efforts have the character of careful description, on the one hand, or of artistic insight on the other. And yet it appears to some of us that anthropology has more deeply influenced psychology than academic psychology has influenced anthropology.

The history of the relationship between the two disciplines contains some curious items. It is perhaps symbolic that Kant's last published work was called *Anthropologie* but was actually a treatise on psychology. Throughout the last hundred and fifty years there has been fairly consistent, though often grudging, recognition that psychology and anthropology were trying to answer some of the same questions by different means and that some of the central problems in each field could never be fully solved without data and concepts from the other. In the days of Wundt and during the period when Boas and Cattell were in constant intellectual association the boundary between the two sciences was somewhat fluid. One of the founders of American anthropology, Clark Wissler, took his Ph.D. in psychology.

In spite of the linkage in the National Academy of Sciences and in the Division of Anthropology and Psychology of the National Research Council there followed almost a generation during which effective collaboration was minimal. There was some interstimulation in the fields of mental testing and so-called "racial psychology," as in the work of Garth and Blackwood. There was the brilliant work of Bartlett and his associates on cultural factors in per-

ception. For the most part, however, the relation was that of respectful, ceremonial avoidance.

To some extent this was due to the fact that each group was busy cultivating its own garden. The anthropologists, in particular, were a small group, and they were obsessed with the urgent necessity for recording as many cultures as possible before these were destroyed. This descriptive task seemed more compelling than broad theoretical issues and interdisciplinary cooperation. But there was more to the story than this. The florescence of brass-instrument psychology and the later fashion of rampant behaviorism repelled most anthropologists. The anthropologist had his experience with human beings in the complex context of actual life—not in the laboratory. He had a not very well-formulated notion that human behavior consists in patterns as well as in events and a consequent distrust of isolating experiments, however rigorous. He felt that no valid theory could be based upon radical behaviorism because he knew that acts have arbitrary, symbolic meanings that cannot be recorded by the most acute ear or eye nor by the finest instruments.

To those few anthropologists who seriously concerned themselves with the matter at all, the academic psychology of roughly the first third of this century seemed to be preoccupied mainly with investigating trivial problems by increasingly refined methods. To the extent that this was true it may have been because psychology was striving fiercely to emancipate itself from what Henry Murray has called "its possessive mother, philosophy, and its dogmatic grandmother, theology." Anthropology stemmed largely from the natural sciences and perhaps for this reason felt less compulsion to prove its respectability. Anthropologists were also rugged individualists or even had a touch of the eccentric about them—or they would not have been attracted to the study of what was unusual, not to say odd, from the standpoint of their own cultures.

It would be presumptuous of me to comment upon the contributions of psychology to general knowledge. I content myself with recording the fact that between Wundt and about 1930 academic psychol-

¹ An address written for presentation at the meeting of the American Psychological Association, Boston, Massachusetts, September 8, 1948.

ogy had singularly little influence upon anthropology. A few anthropologists tried to test Galton's studies of color and number symbolism ethnographically, and Lowie did some field work under the influence of Fechner's ideas on aesthetics. Some psychological data drifted through the wall between the two disciplines, but almost the only postulate or concept that appears to have been seized upon by anthropologists was Shand's notion of the sentiments. This may well have been due to the ignorance or obtuseness of my brethren. At any rate it is also a fact that only with the advent of Gestalt psychology and the delayed diffusion of Freudian psychology was a wide receptivity re-awakened. Gestalt psychology was congenial because it seemed to fit with and provide the possibility of explanation of the anthropological discovery that prediction of cultural dynamics is impossible without a knowledge of the organizing principles of a culture as well as of its content.

Psychoanalysis may have appealed to anthropologists because, as my colleague Gordon Allport has suggested, it is the most effortless type of psychology to lean upon. However, I think we must dig a little deeper than that. For all of the extravagant dogmatism and pretentious impressionism of much psychoanalytic writing, the anthropologist sensed that here at last he was getting what he had long been demanding from academic psychology: a theory of raw human nature. The basic assumptions of the theory might turn out to be false in general or in detail. The anthropologist was positive that the theory was culture-bound to an important degree, though the evidence of the past twenty years indicates that many anthropologists exaggerated the extent of the distortion they thought produced by bourgeois Viennese culture and by late nineteenth century science. At all events, psychoanalysis provided anthropology with a general theory that was susceptible of cross-cultural testing by empirical means and with clues that might be investigated as to the psychological causes of cultural phenomena.

Moreover, there were experiential factors that drew the psychoanalysts and the anthropologists together. Psychiatrists of all faiths were showing that there was meaning in the most apparently chaotic and non-adaptive acts of the mentally ill. This struck an answering chord with the anthropologist, for he was engaged in demonstrating the fact that the seemingly bizarre patterns of non-Western cultures performed the same basic functions as did our

familiar customs. The same amnesty that the psychoanalyst grants to incestuous dreams the anthropologist had learned to accede to strange cultures. That is, both insisted that the queerest behavior had significance in the economy of the individual or of the society. There was no implication of moral approval, necessarily, on the part of either psychiatrist or anthropologist. Both merely agreed that behavior regarded as deviant could not be legislated out of existence unless psychologically satisfying and socially acceptable substitutes were discovered. The essential scientific task was that of gaining maximal understanding of underlying determinants.

Finally, the dominant experience of anthropologists had been as "unscientific"—in the narrow sense of that term—as that of the psychoanalysts. Physical anthropologists had long used the conventional symbols of "science": apparatus, measurements, statistics, though it is only recently that they have been re-casting their postulates and techniques to accord with twentieth century genetics, experimental embryology, and physiology. Anthropological linguistics has a methodology that is probably more rigorous than that of any study that touches human behavior with the possible exceptions of physiology and genetics. Cultural anthropology and archaeology, however, operate by procedures that are in some sense "clinical." Most cultural anthropologists are as innocent of statistics as are psychoanalysts. Ordinarily the anthropologist working under field conditions has as little possibility for control experiments as has the psychoanalyst who sees his subject an hour a day in the consulting room. The skilled of both professions do make predictions of a crude order and test them by subsequent observation. But these observations do not lend themselves to presentation to scientific colleagues in neat graphs and analyses of "t" distributions. Indeed both groups would maintain, without disparaging the indispensable importance of the quantitative for certain scientific purposes, that other scientific questions involve matters of form, position, arrangement that can never be settled by measurement. In linguistics and in fact probably in genetics, the crucial issue is not that of size or frequency but that of what point in what pattern. The principle of the circle does not depend upon measurement as such but upon a fixed patterning, even though measurements are necessary to draw any particular circle to specification.

And so the anthropologist, however skeptical he

might be of certain psychoanalytic dogmas, tended to feel in some measure at home in psychoanalytic psychology. He recognized certain similarities which confronted him in describing and interpreting a culture with those met by the psychoanalyst in diagnosing a personality: the relationships between forms and meanings, between content and organization, between stability and change. To be sure, this is also often true between anthropologists and non-analytic psychiatrists, personality and clinical psychologists. Indeed it is an induction from my experience that these groups tend to understand each other quite readily in spite of the superficially obvious differences in their aims and methods. On the other hand, anthropologists, social psychologists, and sociologists, although ostensibly interested in much more similar issues, appear to suffer frequently from bad communication. I think they are temperamentally much less akin. In field work I have been associated with social and experimental psychologists and also with psychoanalysts, psychiatrists, and clinical psychologists. The former were manifestly uncomfortable in every case. They found the uncontrolled variables of field conditions very disturbing. The latter group adjusted much more flexibly to unpredicted irregularities in interview situations, to the necessity for extemporizing with which every anthropologist is so familiar.

Of course, I should be inclined to attribute a good deal of the compatibility of anthropologists with psychiatrists and personality, clinical, and child psychologists to the vitalizing influence which psychoanalysis has had upon general psychiatry and these branches of psychology. Just as the anthropologist attempts to get a picture of the whole of a culture, so psychologists are more and more attempting to envisage the whole of a personality. In both cases this entails, for the time being at least, some deficiency in workmanship as well as loss of rigor. The anthropologist cannot have enough specialized knowledge to describe music, basketry, and kinship with equal expertness. Nor can the psychologist be equally well trained in mental and projective tests, depth interviewing, and techniques of the personal document. Nevertheless holistic, controlled impressionism has certain merits, at any rate for heuristic purposes in this particular stage of the development of the human sciences.

This retrospective discussion has led us to the present. Let me try to summarize briefly and, I am sure, spottily the present picture. The question I

shall try to answer is: what do anthropologists think they are learning from psychologists that is useful to anthropology. I necessarily view the scene from an angle limited by my own knowledge and experience.

In the abstract, one would hope for fruitful collaboration between physical anthropology and physiological psychology. I have never heard of any. To most anthropologists, physiological psychology is seen from a distance as impressively detailed and workmanlike, enormously useful in practical ways during the war, self-contained, preoccupied, aloof except for some indications of willingness to submit passively to physiology. One would think that there was still a vast fruitful area for psychologists of perception and cultural anthropologists to explore, but both parties appear to have lost interest.

The lusty infant, constitutional anthropology, has had some productive contact with psychology, primarily medical psychology. Hooton and Overholser, the psychiatrist, collaborated in Hooton's study of criminals. As is well known, W. H. Sheldon has worked with and influenced anthropologists in the investigation of somatotypes.

Both physical and cultural anthropology have drawn significantly from comparative psychology. Two sources deserve special mention. The notable studies of Yerkes and his associates have left their mark on thinking in general anthropology. The brilliant researches of C. R. Carpenter have had a considerable influence upon theory in social anthropology.

Both physical and cultural anthropology are likewise concerned—in different ways—with problems of race and race relations. Here psychology has supplied the useful tool of mental and projective tests, which, even in their failures, have helped to show the interdependence of biological and cultural factors in this troubling area. However, the conceptual contributions of psychology have been smaller than might have been anticipated. There are two notable exceptions, Gordon Allport and Otto Klineberg. Allport's studies of group prejudice have deeply affected anthropological research. Klineberg has both taken much from anthropology and given much in return.

It is extraordinary how little influence most of those usually classified as social psychologists have had upon anthropological thinking in contrast to their great influence upon sociology. I suspect this must be understood in terms of temperamental selectivity and of anthropological prejudice against

sociologists. This impasse is perhaps most strikingly evident in studies of language.

During the last ten years there has been a fruitful rapprochement between learning theory and anthropology. In particular, the group from the Yale Institute of Human Relations (Dollard, Mowrer, Miller, and Sears) have stimulated important work by Whiting, Ford, Davis, and others. Certainly there is almost nothing which psychology could give anthropology that would be more useful than a sound theory of learning and effective methods for studying learning. Some of our most central problems (the culturalization of the child, diffusion, resistance and susceptibility to culture change) lie in this area. Miller and Dollard made a promising beginning in *Social Learning and Imitation*, but this important book has some of the defects that almost always inhere in pioneer efforts.

It is noteworthy that in the so-called "culture and personality" field the basic bridges have been laid down by medical psychologists. However, anthropologists are very grateful for the rich ideas and facts provided by such psychologists as Dennis, Havighurst, and Anastasi. More recently, a few clinical psychologists, such as Sylvan Tomkins and William Henry, have assisted in the solution of anthropological problems. A closer relationship between developmental psychologists and both physical and social anthropologists is much to be desired. Margaret Mead has recently discussed the Gesell-Ilg theory of maturation in the *American Anthropologist*.

At the moment there are encouraging signs. The applied psychologists and the applied anthropologists are beginning to get together in the personnel and industrial specialties. Rapaport and other psychologists are providing vitally necessary researches on remembering and forgetting. The studies by Sherif, Bruner, and others on social factors in perception are pointing the way to the understanding of the varied spatial and temporal orientations which characterize different cultures. Some anthropologists see in Lewin's field theory a possible framework for the creation of a basic social science which would unify much of psychology, psychiatry, sociology, and anthropology.

This question of new alignments in the disciplines, of a re-slicing of the pie, is a difficult one on which my own opinions have not yet fully crystallized. Academic people undoubtedly are traditionalists and tend to be irrationally resistive to structuring scientific territories in accord with new frontiers arising

from the development of actual investigations. On the other hand, I see weighty arguments against divorcing the biological from the other aspects of psychology and anthropology and marrying the relic to sociology. I am firmly convinced that every kind of psychologist needs a substantial training in biology, and the same is true for the anthropologist. Indeed the firmest link between psychology and anthropology has been the fact that they alone of all the so-called social sciences bridged the gap between the organic and the socio-cultural. This has, I think, made for tough-mindedness and for realization of the full complexity of behavioral phenomena. Although some social psychologists and some cultural anthropologists have tended too much toward a complete environmentalism, still the main currents in both professions have steadily insisted upon the relevance of genes, biological structure and process, maturation and other organic facts. If regroupings can be made which provide in training and professional canons for the preservation of this postulate of the inevitable biological basis of human nature, then I am heartily in favor of experimental new departments.

We have given you the concept of culture which is now part of psychological thinking. We ask from you in return a formulation of the human nature which is the raw stuff that all cultures act upon. Both psychology and anthropology could well begin to lay as much stress upon the similarities in all human beings as they have, quite properly, upon the differences. The anthropologist, looking at psychology, must express some fear lest "human nature" go the way "mind" has gone.

There are many things for us to do together. We need your technical skills, especially in culture and personality work; we need your collaboration in the improvement of interviewing techniques and in gathering and analyzing personal documents; we need a pooling of our different kinds of knowledge of human biology. I hope that for at least a time we can do our joint researches within the framework of a conceptual scheme which makes explicit some of the postulates we hold in common but which also gives free play to the legitimate and healthy variations in intent and method. In Kroeber's wise words:

"But precisely if psychology and anthropology are to cooperate, it seems that they should recognize and tolerate each other's individuality."

MEASURES OF SCIENTIFIC MERIT IN APPLIED PSYCHOLOGY

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LET me present here a plan and plea for the extension of scientific methods in all branches of applied psychology and in education, sociology, medicine, economics—in short, all the efforts to make a scientific study of human experience and behavior as such.

In my thirty-two years of the graduate deanship I have visced more than 2,000 proposals for doctoral dissertations and more than 10,000 masters' theses by signing my name in approval or disapproval. In the same period it was my duty to appraise the research work of members of the staff in the entire university. My conscience and my colleagues taunted me for acting as if I were competent to appraise research in all fields of knowledge. Let me say at once that I maintained no such pretense, but the work had to be done and I was aided by consultation with the departments concerned.

Now, looking back, I have analyzed the procedure and find that there are certain principles of research which are applicable directly or indirectly, in whole or in part, to all fields of research and creative work. I base this conviction on three lines of observation: first, the established scientific principles in the physical sciences; second, my adaptation of these to the problems under my direction in the psychological laboratory; and third, the universal struggle in the applied sciences and arts for scientific techniques in the pursuit of their problems.

When a student plans a choice of a topic for experimentation, when a professor discusses the value and legitimacy of such an experiment, and when a reader evaluates the contribution in a journal, each may well apply as a measuring scale some established principles of scientific merit by asking himself the following nine questions.

1. Has the experimenter fractionated his problem so that he can deal with one specific factor at a time and set up an operational definition?

2. Has he isolated the chosen factor for experimentation so that it can be varied under control?

3. Are his findings recordable, countable, and repeatable for verification?

4. Has he kept other factors, subjective and objective, constant?

5. Is the factor measured undistorted by isolation from the total situation, subjective and environmental?

6. Is the factor measured significant?

7. Is the statistical method involved, if any, sound?

8. Does it contribute to some fact that utilizes or has a bearing on systematic science?

9. Are the conclusions after each measurement limited to the role of the factor measured?

Each of these sanctions is a test in itself. When understood, they would seem but common sense applied. Failure on one or two may invalidate the whole project. A numerical rating scale may be set up by assigning merit of zero to five on each item where zero means no science and five means full compliance with the scientific sanctions. In applied psychology one can never earn a rating of straight five on account of the inevitable variability in human factors. The same is true of general biology, though not quite to the same extent, but good work in this area should rate somewhere between four and five.

These are the sanctions which we have used with surprising consistency in the entire field of scientific approaches to music and the fine arts. My argument here is that if these sanctions can be applied to the study of music and the fine arts, which is a domain usually very abstruse and often esoteric, that is proof that they can be extended to far more forms of experience and behavior than is now recognized in the social sciences and education. If this were done, there would be a radical revolution in the social sciences.

To show that these sanctions or their equivalents can be applied more broadly than they are at present in these fields, let me make some simple

statements of fact relative to each of the nine sanctions.

1. Far more problems in these fields than is at present recognized can be fractionated so as to isolate and define points of attack for scientific measurement. Witness the problems of learning, personnel, democratic living, mental economies, charities, and crime.

2. Most of the problems in these fields in which the situation is observable by eye or ear can be faithfully recorded for scientific analysis and segregated for treatment. Witness the introduction of measuring instruments such as the wire recorder, motion pictures, eye-movement cameras and all the types of specific problem recorders in experiments.

3. Records of achievement in an experiment can be made by the same type of instruments that are used in the recording of the original act to be studied provided 1 and 2 above are satisfied. Witness the use of standard instruments of precision in building a recording instrument for a given specific act and the various types of achievement tests for which we now have statistical and theoretical techniques.

4. Skill and insight of the experimenter for the control of significant accessory subjective and objective variables present can be acquired by basic training. Witness the necessity of training in the physical and biological sciences and especially rigid training in the psychological laboratory before undertaking complicated practical problems.

5. The distortion by isolation from the total situation can be avoided by drawing the experimental material or stimuli from the complete record of the original situation. Witness the possibility of fractionating hundreds of items in a single phonograph of a song or from a motion picture of a football game.

6. The significance of an experiment can be judged by common sense and logical evaluation of the hypothesis involved. Witness the similarity to evaluation in physiological experiments which always work toward a progressively clarified purpose.

7. Validity and reliability of statistical treatments can be attained under the above conditions. Witness what saving could be made today by requiring that statistical data should be countable.

8. The merit of experiments is measured by the extent to which they contribute basic and enduring facts toward systematic science. Witness the motivational value of having scientific merit as a goal, even in mere observation of incidental behavior

situations, in teaching, in popular writing, and in the disciplines which are not called scientific, such as history, literature, and art.

9. The conclusions from experiments in these fields must be logically restricted, even at the expense of limited practical value. Witness the frequency of experiments which are thoroughly sound in themselves but are assigned false implications in the interest of service.

When we turn to the year's output in applied psychology and social science in general, as represented by thesis or dissertation topics, journals for the year, or the programs for the annual meetings, we find a part of the material heartening and another part, often the larger, disheartening. It is heartening to see the very large number of competent investigators working with scientific techniques where there were none before. Gratifying progress has been made within these fields in the present century.

On the other hand we are confronted with reports which reveal little or no grasp of scientific procedure. It is to this group of so-called researchers that I am making an appeal. I would not flaunt the slogan of science. Very little of our useful knowledge is strictly scientific. Within the fields under consideration there are many problems which should not be attempted scientifically. There are many non-scientific problems which can be undertaken only with scientific experience as in more or less controlled observations. Others can be said to be scientific only in principle, even when they come from scientifically trained men working in an undeveloped field. But where there is a claim of science we must ask our nine commonsense questions before accepting or rejecting the findings.

There are some reasons for lack of scientific merit in these fields. The chief cause for failure lies in the lack of willingness to sacrifice. There are two general attitudes in the social sciences: the omnibus theory and the specific theory. On the omnibus theory the experimenter aims to deliver a whole solution of the problem directly, and this may be all that he wants, but the experiment will have little, if any, scientific merit. On the specific theory the experimenter is willing to sacrifice by dealing with one definable element of the situation at a time with all that involves. In publications on science in music there are perhaps a hundred followers of the omnibus theory to one following the specific theory, and that is perhaps typical of related applied science. The omnibus theorist asks, for example, is

this child musical? The specific theorist asks, in what respects is he musical and to what degree?

Another cause is failure in orientation. Before an experiment can be set reliably, a study must be made of the history of known facts in the total situation and of all the steps that have been taken by other experimenters in solution of the problem, leading to a logical insight which results in a hypothesis. It is not necessary that the experimenter should be able to foresee the results of the hypothesis, but there must be a reasonable justification for the experiment. In many situations the first step should be an experimental factor analysis.

Lack of training in, or knowledge of, the basic sciences is another cause of failure. In the applied sciences the object is generally the solution of a practical problem, and the young investigator, particularly in education and sociology, tends to go right after the whole solution without training in scientific techniques and skills. Failure to require this training has held back the social sciences tragically. It is of course evident that lack of time and facilities for proceeding by a scientific method is one of the commonest alibis. Among students, the

lack of efficient direction and the lack of entering into the spirit of teamwork with the past and present investigators in the field is a frequent cause of failure.

One of the objectives in basic scientific training is the development of the power of scientific integrity; that is, the willingness to apply cold logic to the problem or data in hand. This applies especially to the interpretation of experimental findings. The absence of scientific attitude, the love of science, the emotional glow which comes from persistent pursuit of truth, and companionship in the field of scholars are common causes of failure. I have coined the word, *euphany*, with the adjective, *euphanous*, which may be defined as denoting a deliberate and adequate statement of fact. Lack of this ability is a common frailty among researchers.

Briefly, then, my message is this: You can be scientific! Prepare yourself in techniques, background, and theory, and enter into companionship with those who are willing and able to make the necessary sacrifices and rejoice in the pursuit of verifiable facts!

INSTINCT: A COMPOSITE STUDENT VIEW

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A PERSISTENT problem in the teaching of psychology is the use and misuse (from the psychologist's standpoint) of common, everyday words. No doubt most instructors, realizing this, make a conscientious effort to define terms and to stay within the bounds of their precise terminology. Unfortunately, our definitions frequently misfire because we do not really know the everyday use of the terms. The reasons are various: because we have thought for a long time in technical ways, we forget the popular usage; or we may be so impatient with common sense that we simply override it; or we take for granted the acceptance of certain premises. Any of these attitudes has harmful repercussions; perhaps the greatest of these is the confusion engendered or reinforced in the mind of the hearer. The wise student, therefore, may simply decide that the best policy is agreement with the professor to avoid argument—and to get a good grade—but, privately, he can go along just as before. He may have learned something about how to win friends and influence people, but it is doubtful that he has learned much psychology.

A specialized jargon, of course, is not psychology. But the definition of the facts of behavior in objective terms is at least part of it. The term "instinct" has proven to be one of the most tenacious and troublesome of those concepts with which the teacher of psychology must contend. The trouble is more deeply rooted than the mere fact that it has universal popular usage. For one thing, the term is employed in many other academic fields, such as biology and all of the social sciences, so that the student enters a psychology lecture hall heavily laden with classroom experience with the word. For another thing, it is difficult, if not impossible, to teach psychology without considering the phenomena commonly attributed to "instinct." And it is really unsatisfactory to reject the word, following the exhortations of the behaviorists, or to substitute some "less controversial" term. To adopt either practice involves a tedious rationalization on the part of the lecturer, and probably does little to clarify the matter for the student. Furthermore,

either policy seems hardly necessary, in view of the fact that perfectly legitimate data are on hand to give an adequate meaning to the concept (see, for example, 1 and 4). In any event, if the student has confusions, why not deal with them?

After struggling with this problem before his classes, the writer decided to inquire concerning the sort of preconceptions students have about "instinct." At the start of the semester, long before the matter came up in the lecture, the class was given the assignment to think over what they understood an "instinct" to be, and to bring a written statement to the next class meeting. They were told not to refer to any textbook or other source in formulating their answers. To be sure, some students may have disobeyed this injunction; if so, the results become even more startling. Nearly the entire class returned answers, varying from a few words to two pages. The summary which follows is based upon the definitions of 113 students in the beginning class.¹ These statements are spontaneous, rather than based upon a standardized questionnaire, hence do not necessarily represent the true incidence of opinion on all points.

Classification of Responses. As a preliminary step, each statement was examined for the terms it contained, and all of these listed separately, except for quite obvious synonyms (e.g., "inherent," "in-born," and "innate" for *hereditary*.) Thereafter, broader groupings were made, combining words or phrases which, in the judgment of the writer, reflected the same basic characteristics. Three fundamental features of the answers ultimately emerged, namely, A, the general functional nature of instinct, B, specific characteristics of (an) instinct, and C, examples of instincts. Each of these will be considered in turn.

¹ Since the class is typical of the University of Hawaii, the students represent a highly varied racial background, Japanese, Chinese, Caucasian, Filipino, Hawaiian, and even part-Samoan. However, they are all products of either mainland or territorial schools. Cultural factors may, thus, make this sample of answers different from one obtained elsewhere.

A. THE GENERAL FUNCTIONAL NATURE OF INSTINCT

Student opinions assigned instinct to one of four categories, most students restricting it to one of the categories only, but a few placing it in more than one. These categories follow with the incidence of citation:

1. *Impulse* (32%). About one-third of the responses defined "instinct" as some internal motivating force. Representative statements are: "natural impulse" (or tendency or force); "sort of urge"; "something of an impulse which is spontaneous and has nothing real to back it up"; "motive without thought"; "driving force"; "tendency to act"; "subconscious force"; and "different facets of a single force" (stated as "will to live").
2. *Response or activity* (33%). Another third of the definitions placed instinct on the side of what the organism does, rather than what brings the response about. Typical statements are: "natural act"; "physical response without thought"; "sudden response" (to some imminent danger); "sort of habit"; "reflex"; "natural and unplanned behavior"; "immediate response to stimuli"; "automatic reflex or action"; "unconscious doing"; "things we do for the first time, we usually do instinctively"; etc.
3. *Mysterious knowledge or intelligence* (32%). A little less than a third said that instinct is some peculiar or supernatural characteristic. Thus, it was described very often as a "sixth sense" or as "intuition." Others defined it as "premonition"; "a fact which becomes known without any past knowledge"; "something beyond the natural"; "prime ability—reaction without stimulus, whereas reflex is an answer to any stimulus"; "God-given intelligence"; etc.
4. *Sensory phenomenon* (4%). If "sixth-sense" be excluded, there is still a small number of students who define instinct in terms of quite definite sensory function. Thus, two students literally ascribed instinct to feeling, seeing, hearing, tasting, and smelling. Others linked it less specifically to the sense organ.

B. SPECIFIC CHARACTERISTICS OF INSTINCT

Although a great variety of terms was used, they can be summarized as synonyms or aspects of 12 ideas. The figures shown are percentages of ideas. The figures shown are percentages of students (hence, will add to more than 100), and are merely suggestive of relative emphasis, as noted above.

1. *Hereditary* (39%). Clearly, the salient feature

of instinct to the students in this sample is that animals and/or men are born with it.

2. *Unlearned* (23%). This characteristic has been listed separately from the foregoing one, at the expense of stretching a point. The term "unlearned" covers numerous statements which did not mention heredity, as such, but implied behavior which is independent of prior experience, or, more importantly, behavior which is more generalized and less rigid in a species than was apparently meant by *hereditary*. It may be taken, perhaps, as a more sophisticated opinion than the simple statement that instinct is innate.

3. *Unthinking* (18%). This characteristic covers instances where instinct was differentiated from rational behavior. It was said not to involve reasoning, to be blind, etc.

4. *Unconscious* (16%). Typical statements here were "unconscious preparation," "part of subconscious mind," "working of subconscious mind," "unconscious doing," etc.

5. *Automatic* (12%). Instinct was said to be infallible, involuntary, mechanical, not subject to self-control, automatic, etc.

6. *Spontaneous* (11%). Instinct was sometimes described as being unplanned, unpremeditated, unrehearsed, sudden, etc.

7. *Present more in animals than in men* (9%). A surprisingly small number of students differentiated between human beings and animals, in the number and/or potency of instincts.

8. *Involves learning and/or cultural factors* (8%). A substantial number of students stressed the role of experience in the formation of instincts. (The fact that practically all of these students had had anthropology in their freshman year no doubt contributes to this factor.) In some of these definitions, an instinct was said to be an act trained to perfection, until it has become automatic (e.g., the footwork of a boxer).

9. *Universal* (7%). Although the universality of an instinct (at least for a given species) may have been taken for granted by many students, it was specifically cited as a criterion by comparatively few. Four varieties of generality were expressed, as follows: (a) universal in an unqualified degree; (b) universal, but different degrees are present in different individuals; (c) universal in a given species, but different species have different instincts; and (d) universal in a given (human) cultural group, but different cultural groups have different instincts

(these are said to be inherited cultural traits, and unlearned).

10. *Survival* (6%). A few students stated that instincts serve the organism by assuring its survival.

11. *Unvarying* (3%). It is surprising that so few students stressed the inflexibility of instinct. Although the same idea may be implied in some of the above categories, it may be that many of these students have been taught that organisms can vary their behavior in adapting to the environment.

12. *Resembles conscience* (2%). Instinct was said by two students, respectively, to be the "sense of right or wrong" and to help in distinguishing right from wrong.

C. EXAMPLES OF "INSTINCT" CITED

Not all students gave illustrations of their definitions. Those who did offered an amazing variety of behavior, both animal and human. The following rough classification will summarize this feature of the statements.

1. *Response-patterns*. The commonest example was bird-migration, followed by egg-laying behavior of insects (especially the wasp), web-spinning of spiders, sudden closing of the eyes when some object (notably a fly) passes near them, crying of a baby, swimming (in puppies), and the sucking-response of infants. Others were nest-building (birds), child running to its mother from danger, screaming when frightened, salmon swimming upstream to spawn, reaching for toppling object, maintaining balance, birds teaching their young to fly, obtaining food, reaching and holding in infants, child walking, and flying of birds.

2. *General "propensities"*. The most frequently cited in this category was self-protection, with protection of young by the mother next. Others were gregariousness, imitation, inquisitiveness, homing (pigeons), food-acquiring, group living, "mother instinct" and parental love, etc.

3. *Intuition*. Some examples of this sort were premonition of danger, warning of impending danger, warning of imminent contact, and "wife knowing when I am lying."

4. *Organic drives*. Specifically mentioned were sex, reproduction, hunger, and eating.

5. *Emotions*. Regarded as instincts were pity and helping others, fear, hate, jealousy, love, and "natural enemy sense."

6. *Physiological functions*. Sleeping and shivering from the cold were cited.

7. *Life-impulse*. In a final category were "instinct to live" and "will to live."

CONFUSIONS ABOUT "INSTINCT"

The preceding summary affords insight into the kinds of conflicting ideas brought into the classroom with regard to the particular concept of instinct. A few students frankly expressed uncertainty or outright confusion. It is impossible to say with what degree of assurance the remainder set down their views. In any event, it is possible to formulate some of the major problems.

The first may be stated as the *confusion between action and impulse*. En masse, students do not know whether an instinct is what the organism does in a certain situation, or what makes him do it. This confusion is by no means confined to students, as Dashiell has pointed out (2, p. 116), (and see also English's careful discussion (3, p. 67)). An examination of textbooks now in widespread use will further bear out this confusion. It behooves the teacher of psychology to take cognizance of this conflict and attempt to resolve it convincingly.

The second difficulty may be formulated as the *confusion of heredity*. The student does not have any clear idea of the extent to which, if any, instinct is inherent in the organism and is transmitted from one generation to the next. A related problem is the universality of instinct—is it a phenomenon common to life? is it different in different species? Do men have "instincts" as well as animals? Perhaps some of these doubts are cleared up during lectures on heredity and environment, since, in part, they reflect ignorance of the mechanisms of heredity. On the other hand, even a discussion of genes and chromosomes may do nothing to relieve the vexatious question of what instinct *is*. Instinct as a "mysterious something" must, the writer believes, be succinctly dealt with by the teacher with this in mind.

A third problem is the *confusion of learned vs. unlearned behavior*. The student appears to have only the vaguest idea of the degree to which instincts are learned, automatized responses, or are independent of experience. He does not know whether there is a difference between reflex and instinct. If he believes instincts to be innate, he does not know whether or not they can be modified by experience, or to what degree they are (or become) subject to self-control.

Perhaps the greatest confusion of all (and the crux

of the matter) is familiar to psychologists in many different contexts; namely, the *confusion of mystery*. Instincts in the mind of the beginning student are intangible and wonderful, vitally important in the scheme of life, but elusive. We see them in operation, but there doesn't seem to be any understandable basis for them. In short, they are "mysterious somethings," apart from organic facts like bones and skin, nerve-cells and muscles, viscera and the germ plasm.

Hence, one cannot lightly disregard the term instinct. Perhaps it is unfortunate that it is still with us. It would be much more pleasant if, depending upon our separate penchants, we could either assume a *tabula rasa* in the beginning student, or feel confident that, as the only sound one, our theory would vastly outweigh the nonsense students pick up elsewhere. But neither of these conditions very often obtains in a psychology classroom.

This survey of such a classroom indicates that it is worth the effort to discuss instinct at some length, taking account of the probable cross-section of diverse preconception present among the students. An alternative explanation or redefinition cannot be developed with much success without first accounting for the points brought out above. Mysteries and facts make poor companions.

REFERENCES

1. CRAFTS, L. W., SCHNEIRLA, T. C., ROBINSON, E. E., and GILBERT, R. W. *Recent experiments in psychology*. New York: McGraw-Hill, 1938.
2. DASHIELL, J. F. *Fundamentals of general psychology*. New York: Houghton Mifflin, 1937.
3. ENGLISH, H. B. *A student's dictionary of psychological terms*. New York: Harper, 1934.
4. RICHTER, CURT P. Biology of drives. *J. comp. physiol. psychol.*, 1947, **40**, 129-134.

Essential Courses for Undergraduates

To the Editor:

We have recently sent check lists of undergraduate courses in psychology to the chairmen of twenty-eight leading departments of psychology, asking each to indicate the courses he considers essential or desirable as background for the graduate study of psychology. Replies were received from twenty-five. The results are given in tabular form.

In addition to the courses of the check list, the following courses were suggested by one or more chairmen as essential: biology, physics, introductory philosophy, trigonometry, analytic geometry, logic, scientific method, and social science. Other chairmen suggested the following courses as desirable but not necessary: a survey of trigonometry, algebra and calculus, zoology, personality, scientific method and logic.

Several department chairmen commented that the student expecting to do graduate work in psychology could spend his undergraduate time more valuably in securing background preparation in the sciences than in taking a large number of undergraduate psychology courses.

It does not, therefore, follow from the above list that every department chairman would want each undergraduate student to take all of the courses in the "considered-essential" column. Nevertheless, students as

A tabulation showing the number of times each course was checked as essential or desirable

COURSES	CONSIDERED ESSENTIAL	DESIRABLE BUT NOT NECESSARY
General Psychology	25	—
Experimental Psychology	22	3
Elementary Statistics	16	8
College Algebra	15	8
Heredity	12	10
Psychological Measurements	12	8
Abnormal Psychology	8	11
Systematic Psychology	8	11
Social Psychology	8	10
Child Psychology	6	13
Physiology of the Human Body	5	16
Applied Psychology	5	11
French and German	5	1
French or German	5	1
Calculus	4	3
Educational Psychology	1	17
German	1	8
Mental Hygiene	1	1
	—	16

well as faculty members should find this table useful in selecting the most generally approved list of undergraduate courses.

IRVINE M. DUNGAN and GERTRUDE S. EKAS
Berea College

Psychology and Clinical Psychology: A Reply

To the Editor:

The June 1948 issue of the *AMERICAN PSYCHOLOGIST* carried an editorial in the *Across the Secretary's Desk* column that is worthy of further comment for two major reasons: an editorial in the professional organ of the APA tends to be construed as comparable to an edict of policy. Secondly, the problem considered in this editorial is of high import, inasmuch as it is an analysis of the official statement of an important government agency that is pioneering in the utilization of psychologists in medicine. The voicing of opinion by the higher echelons in the profession has far reaching consequences and therefore, such statements which may induce policy, should be more closely examined and weighed prior to public expression.

The objectionable features in the editorial might be summarized under two categories: One, the editorial dealt in a dogmatic, final manner with a highly controversial problem, namely, whether psychology at present is obligated to train the people who apply the science as practitioners rather than as pure scientists. In-

cidently it is very interesting that in the same issue of the Journal the report of the Policy and Planning Board of the APA was considerably more guarded and thoughtful in considering the same question. Two, the question of the organizational structure of the science of psychology tends to become obscured when non-essential considerations are used as a basis of evaluation.

The editorial argues that the goal and focus of the sciences of biology and medicine differ as do those of psychology, as a pure science, and clinical psychology, as an applied science. However, this writer believes that the conclusion drawn in the editorial regarding the feasibility of separating these two sciences is thinly bolstered, if the argument regarding the "profound ignorance" of these two sciences is offered as justification for continued union. If one were to see the goals and purposes of psychology as narrowly and limited as presented in the editorial, it would seem to be more logical to conclude that a separation of the sciences would be beneficial to the fullest development of each.

since confusion and cross purposes alone obtain from their unification.

Humanity needs both the researcher who probes the pure science and those who apply this science. Both groups have important functions and roles within our society. One is not more or less important than the other. Dr. Lawrence S. Kubie, Associate Neurologist, Columbia University College of Physicians and Surgeons, summarizes this point of view very succinctly:

"There is no profession, no scientific discipline every member of which can or should be created in a research sense. No science can live on research alone in an ivory tower out of touch with the challenge of practical application. Actually science always makes progress by the interaction between the pure and the applied sciences in the field. We constantly check the value and validity of our pure scientific concepts by their applicability. The interplay between the two is an essential and healthy part of training and of the maturation of any science" (*Transactions of the First Conference on Training in Clinical Psychology*, p. 2).

The supposedly philosophical "cold" viewpoint, stated in the editorial, that "it is more beneficial to society for a psychologist to make a research contribution to our knowledge of human behavior than it is for him to help an individual patient" is an unwarranted generalization. Such thinking is not considered to be meaning-

ful by those individuals who work with suffering human beings either as physicians, clinical psychologists, or social workers. Furthermore, the sentiments expressed in the editorial are by no means the only agreed course or true alternative for future action by the body of psychology. Both research and applied activities can be maintained independently without detriment to one or the other.

The editorial speaks of "pressures" from clinical psychology, and the "disastrous" affects of letting solutions of problems pertinent to clinical psychology interfere with the progress of psychology. Such a conceptualization of the problem is highly emotionalized, and presents a restricted point of view. It fails to give proper weight to the facts and reality status of the total problem. The begrudging acknowledgment of the needs of clinical psychology is made in poor taste to those whom the editor describes as "too long a neglected minority within psychology." This narrow viewpoint can be very damaging to the body of clinical psychology, especially when it is espoused by one who by virtue of his position exerts great influence in resolving basic problems in the field.

These opinions are not only those of the writer, but are also those of many clinical psychologists who express exception to the point of view contained in the editorial.

ARTHUR TEICHER

New York Regional Office, I A

Are Our Silent Presuppositions About Prejudices Correct?

To the Editor:

The discussions about the role of prejudices in intergroup relations are getting more and more confused (see, for instance, the Round Table discussion of The University of Chicago, of May 2, 1948 on *What do we know about prejudice?*) They often reveal more about the bias of the particular social scientist than about the attitudes of the common man who is allegedly the object of investigation. I wonder, therefore, whether it would not be a good idea, instead of continuing our futile discussions, to make a new start by considering the following aspects of the situation:

1. The crisis of our age is not restricted to the social world itself. It involves also the mirror of this sick world—the equally pretty sick social science. What we really need—I agree in this respect fully with the sociology of knowledge—is not more "research" about "facts" but a *critique of our silent (hidden) presuppositions*, the validity of which is very much in doubt.

2. The current theory of prejudices is based on a whole series of presuppositions which, if made explicit, turn out to be *obviously false*. They are accepted only because they are not made explicit. The real thing in inter-racial and inter-cultural tensions is not that people are *prejudiced* but that they are *different* in various

respects and for various reasons. The stereotyped conceptions which members of different groups have about each other are an essential part of their being different. Not *prejudices* but *differences* are at the bottom of tensions, dilemmas, and difficulties in intergroup relations. Everything else is secondary in nature.

3. There is only one effective therapy in intergroup relations: to admit and to discuss frankly the existing differences, at the same time explaining that there is nothing wrong with being different. Since we are different, we can only understand each other if we are aware that we are different. This, to my mind, should be the basis of an intelligent intercultural and interracial education. For denying differences which are actually there means making propaganda for misunderstanding each other. And the inevitable result of this is, in collective terms, an increase of intergroup tensions—for the concealed and denied differences remain, and are more disturbing than if they were openly admitted. And in individual terms, the result is neurosis which develops if we conceal, or deny, what we really are.

GUSTAV ICHHEISER

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Chicago, Illinois

Across the Secretary's Desk

WHO RUNS THE APA?

A lot of people do. The APA with all its boards and committees and with its 18 divisions and all their boards and committees requires many people to keep all of its activities running smoothly. When the November, 1947 *AMERICAN PSYCHOLOGIST* appeared with its long list of officers and committee members, E. G. Boring counted the people involved and the number of positions which each held. The list was incomplete because division committees were not included. Even so, 172 people were named. This year we have made a similar count of 209 people whose names will be included in the list of officers and committees to be published in next month's *AMERICAN PSYCHOLOGIST*. The number of members holding each number of positions in 1947 and 1948 is:

Number of positions held

	1	2	3	4	5	6
1947	111	36	20	2	2	1
1948	129	50	25	4	1	0

To have a large number of members actively participating in the Association's affairs means that APA policies are shaped by the combined judgment of many people. They represent different psychological interests, different age groups, different parts of the country, and different kinds of employment. This spread of responsibility also means that many people are experiencing the satisfaction of helping to manage the APA's affairs and are gaining experience that will prepare them for more important future positions in the Association's management.

When I became a member of the APA in 1931 it seemed to me that the Association was run by a little clique who sat on the Council of Directors, made and seconded motions in the annual business meeting, and spoke whenever any topic came up for discussion. I have heard the same charge made every year since—that the APA is run by a small clique. In a sense, of course, the statement has always been true; at any one time there is always a small group of officers and directors who have primary responsibility for running things. But going back over the list of officers and directors—as R. S. Woodworth did a dozen years ago and as I have now done again—quickly shows that the small group has always been a constantly changing one. For example, no mem-

ber of the present Board of Directors has served for more than three consecutive years and only one was on the Board five years ago. This amount of overlap is usual. If the members of the Board of Directors and the officers of any one year are compared with those of five years earlier there is usually an overlap of one, or two, or occasionally three members. (The Executive Secretary now provides some continuity. He does not vote, however, and his term of appointment is limited by the By-Laws.)

Now, with Council members elected by 29 different constituencies (18 divisions, 9 geographical regions, the Conference of State Psychological Associations, and the Department of Psychology of the American Teachers Association), with division officers elected by 18 different constituencies, with the Board of Directors and most APA committee members elected by the Council, and with the President and President-Elect chosen by the entire membership, there is no possibility of management by a small self-perpetuating group.

In selecting people for the APA's many official positions, attention should obviously be given to the characteristics which each job demands. A division secretary, for example, must have the habit of answering his mail promptly. If he does not, his desk will soon be piled with complaints and the whole division will suffer. A member of the Council of Representatives, as a second example, must have the habit of attending APA meetings regularly, for to fulfill his functions he must attend Council meetings. Any division or region that elects a Representative who does not attend APA meetings regularly is forfeiting a vote on Association matters.

Election to any APA position carries responsibility, but the greatest amount of responsibility comes when one is elected to the Board of Directors. For, despite the many people who hold office, top management of the Association's affairs does rest in the hands of a small group—the four officers and the six directors. The Board of Directors meets twice a year. Interim business is conducted by mail. All told, each member probably gives some 10 to 12 days a year to his duties. In those days he makes decisions or recommendations concerning the management of an association of close to 6000 members, an annual meeting that will attract over 2000 persons, and a budget that is now close to a quarter of a

million dollars a year. I have been interested in watching the directors assume this responsibility. Personal wishes and biases are submerged in an effort to decide in terms of the welfare of the whole organization. Debated points get talked over and considered from all angles until agreement is reached. On a number of occasions I have seen a director point out the difficulties with and the arguments against a move which he personally was recommending.

The feeling of responsibility which characterizes the discussions of the Board may come in part from the trust which the members necessarily place in the directors. Partly, I suspect, it comes from the fact that officers and directors have usually served a considerable apprenticeship in APA affairs before attaining the top positions.

The Program Committee is an example of the APA's apprenticeship system. Its members have to decide how to arrange the many elements of the program to minimize the amount of conflict. They have to fit the program into the available time and space. They have to guess which of several concurrent sessions will draw the largest audience and so should be assigned the largest room. Membership on this committee lasts three years. In his first year, a member does some work, but mostly he learns what it is all about and what the problems are. In his second year he can contribute a good deal more. In his third year he serves as chairman and does much more work than he did in both his preceding years. But those years have trained him for the responsibilities of his chairmanship year.

Very rarely is one elected to a top office who has not gone through an apprenticeship of service on APA committees or in the committees and offices of APA divisions or other psychological associations. Ernest Hilgard, the present President, is a good example. He was a member of the National Research Council's Emergency Committee in Psychology and of its sub-committee on Survey and Planning. He has been a representative of the APA to the National Research Council. He was chairman of the committee that revised the constitution when the APA and the AAAP combined. For three years he was a member and for one year the chairman of

the Policy and Planning Board. For two years he was a member of the Council of Representatives. For one year he was chairman of SPSSI. He can serve more effectively as the Association's President because during the six years in which he held these earlier positions he learned a great deal about the APA and its problems.

It takes time to acquire the prestige and to become well enough known to be elected to the Board. Most newly-elected members have been in their forties, a few in their fifties, still fewer in their thirties. The present members range in age from 36 to 56, with a median age of 46. As the APA grows larger it takes more time to demonstrate one's competence to the point where one is elected to these offices. Ten years ago the median age of officers and directors was 43 instead of the present 46. If the directors themselves were doing the electing, I suspect that they would choose a still younger group. The directors do pick out the APA's Secretary and Treasurer. Election is by the Council now and used to be by the annual business meeting, but the nominations are made by the Board of Directors. In the last 30 years the Secretaries and Treasurers have ranged in age from 29 to 46. Six of the 13 were under 35 and all but two were under 40 at the time of their election.

The Board of Directors has given considerable thought to the problem of finding younger people for membership on APA committees and boards. The Board has instructed me to enlist the help of divisions and state and regional associations in an active hunt for promising young psychologists who will work effectively on APA committees.

Local psychological associations and the APA divisions can help on this problem. Being smaller, their members know each other better. They have an opportunity to elect younger officers than the APA usually does. Like the APA, however, they can train their officers through committee appointments. Many of the future officers of the APA will come from the ranks of those who work satisfactorily in these positions, for the APA is run by a constantly changing group of members who have demonstrated their competence through such apprenticeships.

DAEL WOLFE

Psychological Notes and News

Mail addressed to the eighteen APA members listed below has been undelivered because of obsolete addresses. If you know of more recent addresses please send them to the Office of the Executive Secretary, 1515 Massachusetts Avenue N.W., Washington 5, D. C.

Viola Caprez Ames
Aviation Psychology
Medicine & Surgery
Navy Department
Washington 25, D. C.

Marian Helen Brody
% Lt. Eugene B. Brody
385th Station Hospital
APO 124, % P.M.
New York, N. Y.

Marjorie Fiske
119 W. 227th St.
New York, N. Y.

Eleanor H. Hayes
Butler School Bldg.
Belmont, Mass.

Dr. Dorothy Morgan Henika
4811 March St.
Dallas, Texas.

Virginia H. Johnson

% Riggs Clinic, 27 Fenn St.
Pittsfield, Mass.

J. E. P. Libby
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Greenbrier College
Lewisburg, West Virginia

Margaret Pankaskie
U. S. Navy Hospital
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Esther M. Peiser
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Frankfort, Main, APO 757
% P.M., New York, N. Y.

Mary Frances Reed
Blacksburg, Virginia

Dr. Herbert Shuey
Mission, Kansas

Mrs. R. D. (Elizabeth C.) Strickland
2369 Williams St.
Columbus, Ohio

Rachele M. Thomas
105 East 38th St.
New Haven, Connecticut

Mrs. Joseph A. Tyburdry
365 Marlborough St.
Boston 15, Mass.

H. T. Tyler
Sacramento College
Sacramento, California

Natalie Zinn
Worcester State Hospital
Worcester, Mass.

Henry S. Odbert has joined the Secretariat of the Committee on Human Resources of the Research and Development Board. He was formerly assistant professor at Dartmouth.

Clyde H. Coombs, on leave of absence for a year from the University of Michigan, will work at the Social Relations Laboratory of Harvard with Samuel Stouffer, Fred Mosteller and Louis Guttman on problems of scaling methodology.

Dorothy Park, formerly of Stephens College, is now head of the department of philosophy and psychology at Meredith College.

Alice E. Bell, formerly of Stephens, is now associate professor of psychology in the department of psychiatry at the University of Cincinnati.

Irene Robinson of the University of Chicago has

become an assistant professor at the University of Utah.

Stanley B. Williams resigned as assistant professor at the Johns Hopkins University to become professor at William and Mary College.

William Schofield has been appointed as assistant professor in the Department of Psychiatry and Neurology of the Medical School of the University of Minnesota. His duties will include the supervision of graduate students in clinical psychology.

Frank Costin of the University of Chicago has accepted an appointment as assistant professor of psychology at the University of Illinois, Galesburg.

Arthur H. Brayfield, formerly dean of student personnel at Long Beach City College, has been appointed assistant professor of education at the Uni-

versity of California, Berkeley. He will direct the recently expanded training program for student personnel workers.

Kathern McKinnon, formerly of Michigan State College, has accepted a position with the Child Guidance Clinic in Great Neck, Long Island.

Elizabeth Fehrer, formerly of Michigan State College, has accepted an assistant professorship at Brooklyn College.

Leonard Mead, on leave from Tufts College to serve with the Human Engineering Branch of the Special Devices Center, Office of Naval Research, has returned to Tufts as associate professor of psychology and research coordinator for the university.

Morris Rubin, formerly vocational advisor at the University of Pennsylvania Veterans Guidance Center, has been appointed executive director of the Philadelphia B'nai B'rith Vocational Counseling Service.

John W. Whitfield, senior member of the Medical Research Council Applied Psychology Research Unit at Cambridge University and member of the editorial board of the new *Quarterly Journal of Experimental Psychology*, is visiting lecturer in the department of psychology at Wesleyan University for 1948-49. He is replacing **Robert H. Knapp** who has a year's leave of absence to make a field study of the undergraduate colleges and departments which have been notably successful in turning out scientists.

Saul B. Sells, formerly of the A. B. Frank Co., Dallas, has joined the staff of the Department of Psychology of the Air University, School of Aviation Medicine, Randolph Field, Texas.

Richard S. Lazarus of the University of Pittsburgh has been appointed assistant professor of clinical psychology at the Johns Hopkins University.

Robert Tyson of Hunter College has been appointed to the advisory staff of *The Journal of Education*.

Ivan N. Mensh, formerly U. S. Public Health Service fellow in clinical psychology at Northwestern University, has joined the department of neuro-

psychiatry in the School of Medicine at Washington University, St. Louis.

Rutherford B. Porter, who has been director of counseling and guidance at Northern Michigan College of Education, Marquette, is now director of the Special Education Clinics and head of the Division of Special Education at Indiana State Teachers College, Terre Haute.

Leo Charles Ward, Jr. has accepted an appointment as instructor in psychology at the Georgia Institute of Technology beginning in September.

Elmer D. West, formerly director of admissions, associate professor of psychology, and director of the summer session of the University of New Hampshire, and **Geraldine Spaulding**, formerly editor, National Teachers Examination Project, Educational Testing Service, have joined the staff of the American Institute for Research, Pittsburgh.

David G. Ryans has accepted an appointment as professor of educational psychology in the School of Education, University of California at Los Angeles. He will continue to serve as the liaison representative of Educational Testing Service in connection with their Teacher Examination Program, and as director of the Teacher Personality Study.

The Division of Education and Applied Psychology of Purdue University announces the following appointments to its staff: as associate professor, Arden Frandsen, formerly of Utah State Agricultural College; as assistant professors, Kenneth S. Davenport, formerly of Michigan State College; Homer G. Wood, formerly of New Haven Junior College; Ernest J. McCormick and Richard R. Waite; and as instructor, Henry Davis Shanklin, III.

Harold G. McCurdy, formerly of Meredith College, has become an associate professor at the University of North Carolina. The department of psychology at the University of North Carolina for 1948-49 now includes professors John F. Dashiell, Harry W. Crane, English Bagby, Dorothy Adkins and James W. Layman; associate professors William J. Daniel, Irvin S. Wolf, and H. G. McCurdy; and instructors Norman Kaplan, Albert Branca, Howard Page, Marjorie Meyers, Olga Gernova, Winifred

Meldrim, Mary Alice Danziger, Edith Chen, Marie Louise Peachee, and Donald Driggs.

The Division of Psychologists in Public Service announces that five people, two officers and three others, were present for the opening phases of its business meeting, held at Boston on September 9, 1948.

The Centennial meeting of the AAAS was held in Washington, D. C. from September 13 to 17. Attendance of psychologists was small, since their own annual meeting had ended the week before. Several psychologists participated in the program. On Tuesday morning, Lyle Lanier presided at a session entitled "Human Individuality"; L. L. Thurstone of the University of Chicago spoke on "The Primary Mental Abilities," and Muzafer Sherif of Yale University was one of the discussants. On Wednesday morning, on a program entitled "Educability," Arnold Gesell of Yale University spoke on "The Growth Potentials of the Human Infant." The program consisted entirely of invited papers which were designed to summarize current developments in the principal fields of science.

Howard Meyerhoff, professor of geology at Smith College, was elected administrative secretary of AAAS beginning January 1949.

Barney Korchin's address is 2224 Locust Street, Philadelphia 3, Pennsylvania, instead of 1201 Greeby Street, as incorrectly listed in the 1948 APA Directory. In correcting your copy, note that Sheldon Korchin's address should remain as 1201 Greeby Street.

The mental health program authorized by Congress in 1946 received an appropriation of \$9,028,000 for the fiscal year 1949. This sum is to be used for financing research on mental illness, development of local mental health facilities, and training of mental health personnel.

The following institutions received grants to cover improvements in the training of clinical psychologists and stipends for selected graduate students:

University of California
Columbia University, Teachers College
Duke University
University of Illinois
State University of Iowa
University of Michigan

University of Minnesota
New York State Psychological Intern Training Program
Northwestern University
Ohio State University
University of Pennsylvania (training stipends only)
Princeton University
University of Rochester
Stanford University
Western Reserve University
Worcester State Hospital
Yale University

In addition, training grants but no stipend grants were made to:

University of Cincinnati
University of Colorado
Harvard University
University of Kentucky
The Menninger Foundation
University of North Carolina
Tulane University
University of Washington (Seattle)

The TAT Newsletter is an informal mimeographed quarterly of interest to users of the TAT. Volume I is still available and Volume II can be subscribed to for the same price, \$1.00 per year. Address the editor, Dr. Robert R. Holt, Menninger Foundation, Topeka, Kansas.

Science Research Associates, in conjunction with the department of psychology of the University of Chicago, has established an internship program for students in the department to work half-time on research in various areas of psychology. These appointments will offer opportunities for gathering data for doctoral dissertations and publications of Science Research Associates. One intern, Sarah Counts, has been appointed for 1948-49.

Research Director, Army's Attitude Research Section in Germany. To conduct opinion-attitude studies among military personnel. Knowledge of IBM equipment and of attitude surveys essential. PhD desirable. Salary \$9290.25 (Civil Service Grade, P-6, plus living and quarters). Write to Jack Elinson, Army Air Force Information and Education Division, Pentagon, Washington 25, D. C.

Psychologists, State of Minnesota. As vacancies for psychologists occur from time to time, they are filled from the lists of those who have passed the Civil Service examination. Psychologists interested in being notified the next time the psychological examination is given are invited to apply to the State of Minnesota Civil Service Department, 122 State Office Building, St. Paul, Minnesota.

Senior Clinical Psychologists, State of California. Entrance salary \$376 a month, with annual increases for satisfactory service to a maximum of \$485 after three years. Positions under Civil Service, but temporary appointment may be made pending qualification by examination. Applicants must have education equivalent to the Master's degree with a major in psychology and two years of appropriate experience; the PhD can be substituted for one year of experience. California residence not required. Apply to the State Personnel Board in Sacramento, San Francisco, or Los Angeles, or at any California Department of Employment office. Or write to Dr. Burton M. Castner, Chief, Division of Diagnosis and Classification, California Youth Authority, 401 State Office Building #1, Sacramento, California.

Specialist Commissions in the U. S. Marine Corps Reserve (Inactive) are available to limited numbers of psychologists qualified in personnel research. For applications address the Commandant of the Marine Corps, Washington 25, D. C.

Research psychologists in different branches of the U. S. Government are needed in various research laboratories. These range in level from entering positions to directors of research laboratories. The entering positions require the equivalent of a bachelor's degree with a psychology major and the work is at a junior apprentice level serving as laboratory or research assistant to a senior psychologist. The entering salary for these jobs is P-1, or \$2970.80. At the other end of the scale is the Psychologist at the P-8 level at \$10,330 a year, who serves as head of a large staff of psychologists and their assistants.

At the present time, all positions are filled from registers of eligibles resulting from competitive examinations conducted by the U. S. Civil Service Commission. Jobs at the entering (P-1) level are filled from the examinations for Junior Professional Assistant. The U. S. Civil Service Commission announced, on September 14, 1948, an examination

for the grades P-2 and P-3 (\$3,727 and \$4,479). There are two optional subjects: (1) experimental and physiological psychology; and (2) personnel measurement and evaluation. Applications to take the examinations for these grades must be made not later than November 9, 1948. Persons interested may secure full information and application forms at most first- and second-class post offices, or from the U. S. Civil Service Commission, Washington 25, D. C.

Applications are still being accepted by the Civil Service Commission for higher-grade research psychologist positions under Examining Circular EC-9, issued on January 14, 1947. The salaries range from \$5,232 to \$10,330 a year. No written test is required; candidates will be rated on their experience and training. To qualify for the positions at the highest level, candidates must have earned recognition in the field of psychological research.

Clinical Psychologists, Illinois. Two vacancies for the grade Psychologist I, salary \$190 per month with a deduction of \$32 for full maintenance. MA or its equivalent desired, man or woman. Apply to Dr. William W. Fox, Superintendent, Lincoln State School & Colony, Lincoln, Illinois.

School Psychologist, Wisconsin. Dr. Marjorie L. Page, Board of Education, Whitefish Bay Public Schools, 1200 East Fairmount Avenue, Milwaukee 11, Wisconsin, has listed a position for a school psychologist, preferably a woman under forty. The salary schedule for teachers there is based on education and experience. The range for MA plus 15 credits, for example, is from \$2200 to \$4100.

Clinical Psychologist, Virginia, wanted for teamwork with psychiatrist and social worker in a mental hygiene clinic under the Federal-State-Local set-up. PhD or equivalent. Beginning salary up to \$4,848. Apply to Director, Roanoke Guidance Center, 1912 Memorial Avenue S. W., Roanoke 15, Virginia.

Clinical Psychologist, Texas, wanted for the Texas State Department of Health, Division of Mental Health, Austin 2, Texas. The duties are those of assistant director of the Division of Mental Health — to plan and administer clinical psychology for the state mental health program. PhD preferred, or certification by ABEPP; three years of experience as a minimum. Salary, \$4500-\$5652. Apply to the Director, Dr. Elizabeth Gentry.

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By DAVID KRECH, University of California; and RICHARD S. CRUTCHFIELD, Swarthmore College. *McGraw-Hill Publications in Psychology.* 622 pages, \$4.50

This basic text is the first modern work of its kind to develop an integrated and consistent approach to the *science* of psychology as a systematic, interpretative account of social behavior. A large part of the book is devoted to the basic principles of human behavior, which are then "spelled out" in their operation in such behavior as racial prejudice, labor-management conflict, propaganda, group morale, leadership, international tensions, etc.

ESSENTIALS OF PSYCHOLOGY. An Introductory Textbook

By DONALD M. JOHNSON, University of Minnesota, Duluth Branch. *McGraw-Hill Publications in Psychology.* 491 pages, \$3.50

In this distinctive new text the author presents a clearly written and well illustrated survey of the entire field of psychology, approaching the subject as a biosocial science and making an unusual effort to integrate the subject matter. Recent advances in the field are interwoven with the more traditional material; there is a glossary of over 400 words; and the wealth of carefully chosen illustrations is a feature of the book.

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THE AMERICAN PSYCHOLOGIST

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COMMITTEE ON FELLOWSHIPS: A. Irving Hallowell, *chairman*; Harold E. Burt, Theodore D. McCown, Kenneth W. Spence, and Robert Redfield.

COMMITTEE ON HISTORY OF PSYCHOLOGY AND THE WAR: Charles W. Bray, *chairman*; and Dael Wolfle.

COMMITTEE ON INTERNATIONAL RELATIONS IN PSYCHOLOGY: H. S. Langfeld, *chairman*; Jerome Bruner, Margaret E. Hall, Walter S. Hunter, Otto Klineberg, Walter R. Miles, and Robert M. Yerkes. SUBCOMMITTEE ON LATIN AMERICAN PSYCHOLOGY: Margaret E. Hall, *chairman*; Howard D. Spoerl, and Sybil A. Stone.

COMMITTEE ON SELECTION AND TRAINING OF SCIENTIFIC PERSONNEL: Phillip J. Rulon, *chairman*; Dorothy C. Adkins, John G. Darley, Harold A.

Edgerton, Walter S. Hunter, E. F. Lindquist, and John M. Stalnaker.

George K. Bennett, vice-chairman of the division, is an ex-officio member of all committees of the Division of Anthropology and Psychology.

Arthur W. Melton and Walter R. Miles are Members at Large in the Division of Anthropology and Psychology.

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SOCIAL SCIENCE PERSONNEL: Leonard S. Cottrell, *chairman*; Fred Eggan, Glen Heathers, Philip E. Mosely, Elbridge Sibley, and Paul Webbink.

WAR STUDIES: Roy F. Nichols, *chairman*; Shepard B. Clough, James P. Baxter, 3rd, Pendleton Herring, Paul T. Homan, John A. Krout, Dael Wolffe, and Ralph A. Young.

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PROCEEDINGS OF THE FIFTY-SIXTH ANNUAL BUSINESS MEETING OF THE AMERICAN PSYCHOLOGICAL ASSOCIATION, BOSTON, MASSACHUSETTS

September 8-9, 1948

REPORT OF THE RECORDING SECRETARY

HELEN PEAK

Connecticut College

THE annual meeting of the Council of Representatives of the American Psychological Association was called to order at 8:15 p.m., September 8, 1948, by President Donald G. Marquis in Parlor A of the Statler Hotel. The Board of Directors of the Association had been in session for two days for discussion and formulation of the agenda. The Council session of September 8 adjourned at 11:30 p.m. On the morning of September 9 the Board met again to consider additional problems for the Council. The Council was reconvened for a second session at 2:00 p.m., September 9. Final adjournment was at 5:00 p.m., September 9.

A. REPORTS TO THE COUNCIL OF REPRESENTATIVES

1. The Council voted to approve the minutes of the meeting of the Council of Representatives on September 10, 1947, as printed in the *American Psychologist*, 1947, 2, 408-481.

2. The Council voted to approve the minutes of the meeting of the Board of Directors on March 19-21, 1948 (see the Report of the Recording Secretary to the Council of Representatives).

3. The Council voted to approve the Board's interim vote to collect a registration fee of \$2.00 from persons attending the 1948 annual meeting who were not members or affiliates of the American Psychological Association.

4. The President reported the appointment of the following persons during the year:

<i>Delegate</i>	<i>Function</i>	<i>Date</i>
Donald G. Marquis	Celebration of the Centennial Year of the Sheffield Scientific School of Yale University	Oct. 17, 1947
Rensis Likert	State Department Conference on proposed International Bill of Human Rights	Oct. 31, 1947
Meredith P. Crawford	Inauguration of the President of Fisk University	Nov. 6-8, 1947
G. Wilson Shaffer	Inauguration of the President of Western Maryland College	Nov., 1947
Frank W. Finger	Inauguration of President of Mary Baldwin College	Nov. 18, 1947
F. H. Sanford	Annual meeting of the National Committee on Atomic Information	Dec. 19, 1947
Sr. M. St. Mary Orr	Inauguration of President of University of Scranton	Feb. 23, 1948
Noble H. Kelley	Inauguration of President of the University of Louisville, and Sesquicentennial Celebration of the University	Feb., 1948
Dwight W. Chapman	State Department Conference on Human Rights and Freedom of Information	March 4, 1948
John V. McQuitty	Inauguration of President of the University of Florida	March 5, 1948
Elmer D. Hinckley	Inauguration of President of Bethune-Cookman College	March 11, 1948
Carroll C. Pratt	Annual Meeting of American Academy of Political and Social Science	April 2-3, 1948
Richard S. Crutchfield		

<i>Delegate</i>	<i>Function</i>	<i>Date</i>
Stephen M. Corey	Annual Meeting of American Council on Education	May 7-8, 1948
Reign H. Bittner	Inauguration of President of University of Toledo	May 11, 1948
Frances G. Orr	Pacific Regional Conference on UNESCO	May 13-15, 1948
Donald W. MacKinnon		
David Krech		
Egerton L. Ballachey	Third National Conference on Citizenship—Office of the Attorney General	May 16-19, 1948
Dwight W. Chapman		
Laurance F. Shaffer	Conference on Medical Allied Sciences Section—Office of the Surgeon General	May 27-28, 1948
Dael Wolfe		
Milton Metfessel	Inauguration of President of University of Southern California	June 11, 1948

5. The Council voted to accept the report of the Treasurer for 1947 and ordered that the report be printed in the Proceedings.

3. The Executive Secretary announced the following resignations since the 1947 meeting:

B. CHANGES IN AMERICAN PSYCHOLOGICAL ASSOCIATION MEMBERSHIP

1. The Executive Secretary announced the following deaths of members reported since the 1947 meeting:

FELLOWS

J. W. Barton, March 3, 1948
 Thaddeus L. Bolton
 C. T. Burnett
 Gustave A. Feingold, 1948
 John G. Jenkins, 1948
 Chester E. Kellogg, 1948
 Noel Keys, 1948
 Howard L. Kingsley, April 7, 1948
 Frederic B. Knight, June 19, 1948
 D. P. MacMillan, July 30, 1947
 Bert A. Nash
 James S. Plant, Sept. 7, 1947
 C. C. Ross, April, 1947
 Clark Wissler, August 25, 1947
 Helen T. Woolley, Dec. 24, 1947

ASSOCIATES

Trann L. Collier, 1947
 Catharine J. Gage, Sept. 10, 1945
 Margaret E. Henninge, March 28, 1947
 Alfred H. Holway, June 1, 1948
 D. W. Pearce, March 7, 1948
 Martin Remp, Oct. 8, 1947
 Henry B. Rutter, Jan. 31, 1948
 Charles E. Stuart

2. The Executive Secretary announced that the following persons had been granted status as Life Members since the 1947 meeting:

Walter VanDyke Bingham
 Sven Froeberg
 Henry C. McComas
 S. D. Porteus
 John Pickett Turner

FELLOWS

M. J. Mayo
 Mrs. Herbert W. Rogers
 Ernest B. Skaggs
 A. J. Snow
 Lorin A. Thompson

ASSOCIATES

Gudrun Adolphson
 Margaret B. Ashby
 Charles L. Bane
 Lynn M. Bartlett
 Helen Blau
 Raphael D. Blau
 W. Harold Bleakley
 Mrs. Ruth-Aline Bobbitt
 Robert C. Bryan
 Mrs. Evelyn Ehman
 Cantrill
 Hilliard Charner
 Dennis Cooke
 Mrs. Jane W. Coyne
 Helen Frances Cummings
 Jane Farwell Cushman
 Henry F. Dickenson
 Bessie Dinin
 Jason Dlugacz
 Neal Drought
 Norman K. Elliott
 Ray Faulkner
 Margaret Erb Fitch
 Alice M. Flemming
 Jesse T. Fontaine
 Samuel F. Franklin
 Hazel Peterson Gaudet
 John T. Gobey
 Virginia H. Graham
 Mrs. Albert Grant
 Vera Z. Harris
 Jean A. Hood

Bernard Horowitz
 Rita Anne Houlihan
 Theodora L. Hubbard
 Eliot D. Hutchinson
 Robert B. W. Hutt
 Walter W. Ismael
 Katherine Kao
 Sherman N. Kieffer
 Frances Weibel King
 Marcel Kovarsky
 George Allen Kramer
 Alphonse Kremer
 Mary F. W. Lane
 R. C. Langford
 Charles R. Langmuir
 Elizabeth J. Laschinger
 Jeane Ann Lee
 P. A. Libby
 Marjorie C. Macdonald
 Keith MacKane
 Samuel B. McHose
 Arnold Meadow
 Stephen Eugene Metcalf
 A. R. Moore
 Sally Morris
 Lorna S. Nance
 Frances E. Norton
 Edith M. Nunan
 Donald A. Piatt
 Catherine J. Preston
 Esther Prevy
 Glen E. Rayson

John P. Risley
 Irving Robbins
 Leo Roberts
 Fern T. Rodgers
 Clara B. Rotter
 W. Donald Rugg
 Edward Salner
 T. N. Sang
 Ada Rost Seales
 Sadie Sender
 Josephine E. Sisti
 Mrs. K. U. Smith
 Wilner E. Stevens
 Bernard C. Sullivan
 Pearl B. Sutter
 M. I. Tomilin

Chao-Siu Tsai
 William R. Tubbs
 Eugene W. Veigle
 J. Ellis Voss
 John L. Wallen
 Howard Wells
 Robert G. Wetmore
 Douglas E. Wheeler
 Lester R. Wheeler
 Mrs. M. M. White
 Stella H. White
 Albert G. Wiederhold
 Margaret Wiesender
 David Carlton Williams
 Jane Hutchinson Wingo
 James H. Wright

Buckingham, Guy E.

Canady, Herman G.

Carlson, Harold S.

Carter, Gerald C.

Chandler, Constance

Chappell, Matthew N.

Christenson, James A., Jr.

Coleman, James C.

Cook, David W.

Cooper, Max

Cornehlisen, John H., Jr.

Covner, Bernard J.

Crawley, S. L.

Daniels, Edgar E.

Day, Daniel D.

DiMichael, Salvatore G.

Dunlap, James M.

Eberhart, John C.

Eissler, Kurt R.

Escalona, Sibylle K.

Espenshade, Anna

Evans, Mary Catharine

Ferguson, Leonard W.

Fiedler, Miriam Forster

Fischer, Robert P.

Fite, Mary D.

Flowerman, Samuel H.

Fellow in the Division of Industrial and Business Psychology

Fellow in Personality and Social Psychology

Fellow in the Division on Childhood and Adolescence

Fellow in Counseling and Guidance

Fellow in Counseling and Guidance

Fellow in the Division of School Psychologists

Fellow in the Division of Industrial and Business Psychology

Fellow in Clinical Psychology

Fellow in Abnormal Psychology

Fellow in the Division of Industrial and Business Psychology

Fellow in Clinical Psychology

Fellow in Counseling and Guidance

Fellow in the Division of Industrial and Business Psychology

Fellow in Counseling and Guidance

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Fellow in the Division of School Psychologists

Fellow in Personality and Social Psychology

Fellow in Clinical Psychology

Fellow in Clinical Psychology

Fellow in the Division on Childhood and Adolescence

Fellow in Counseling and Guidance

Fellow in the Division of Industrial and Business Psychology

Fellow in the Division on Childhood and Adolescence

Fellow in Clinical Psychology

Fellow in the Division on Maturity and Old Age

Fellow in Clinical Psychology

Fellow in the Society for the Psychological Study of Social Issues

4. The Council voted to elect as Fellows the following 155 persons who had been nominated by a division and who were recommended by the Board of Directors. Following the name of each new Fellow is the title conferred upon him by the division which recommended his election. Two or more titles are given for Fellows recommended by two or more divisions.

FELLOWS, 1948¹

Adams, Michael	Fellow in Clinical Psychology
Adler, Daniel L.	Fellow in Counseling and Guidance
Allen, Chauncey N.	Fellow in Abnormal Psychology
	Fellow in the Division of Industrial and Business Psychology
Altmaier, Carl L., Jr.	Fellow in Clinical Psychology
Angyal, Alice	Fellow in Clinical Psychology
Asher, Eston J.	Fellow in the Teaching of Psychology
Bach, George R.	Fellow in the Division on Childhood and Adolescence
Baxter, Brent	Fellow in the Division of Industrial and Business Psychology
Bernhardt, Karl S.	Fellow in the Division on Childhood and Adolescence
Bice, Harry V.	Fellow in Clinical Psychology
Billig, Albert L.	Fellow in the Division of School Psychologists
Blos, Peter	Fellow in Clinical Psychology
Bolgar, Hedda	Fellow in Clinical Psychology
Bridgman, C. S.	Fellow in Physiological and Comparative Psychology
Brunschwig, Lily	Fellow in Clinical Psychology

¹Any member who has previously been elected a Fellow is not included in this list. In 1949, at the suggestion of the Board of Directors, new Fellows of each division will be listed, whether or not they are already Fellows of the other divisions or of APA.

Frederiksen, Norman	Fellow in Personality and Social Psychology	Kay, Lillian Wald	Fellow in Personality and Social Psychology
	Fellow in Evaluation and Measurement	Kennelly, Thomas W.	Fellow in the Division of School Psychologists
Freiberg, Albert D.	Fellow in the Division of Industrial and Business Psychology	Kerr, Willard A.	Fellow in the Division of Industrial and Business Psychology
French, Robert L.	Fellow in General Psychology	Kleemeier, Robert W.	Fellow in the Division of Industrial and Business Psychology
Fromm, Erika O.	Fellow in Clinical Psychology		
Gagné, Robert M.	Fellow in General Psychology	Kobler, Fank J.	Fellow in the Teaching of Psychology
Garfield, Sol L.	Fellow in Clinical Psychology	Koch, Sigmund	Fellow in Theoretical and Experimental Psychology
Gibbons, Charles C.	Fellow in the Division of Industrial and Business Psychology	Kutash, Samuel B.	Fellow in Clinical Psychology
		LaGrone, Cyrus W., Jr.	Fellow in Clinical Psychology
Gilbert, Gustave M.	Fellow in Clinical Psychology	Larsen, Robert P.	Fellow in Counseling and Guidance
Gilbert, William M.	Fellow in Evaluation and Measurement		
Good, Carter V.	Fellow in Clinical Psychology	Lassner, Rudolf	Fellow in Clinical Psychology
Graham, Frances Keesler	Fellow in Clinical Psychology	Lawrence, James F.	Fellow in Clinical Psychology
Grayson, Harry M.	Fellow in Physiological and Comparative Psychology	Le Craft, Beatrice	Fellow in the Division of School Psychologists
Griffiths, William J., Jr.	Fellow in the Division of Industrial and Business Psychology	Levy, Ruth J.	Fellow in Clinical Psychology
Guest, Lester	Fellow in Clinical Psychology	Long, Lillian D.	Fellow in the Division of Psychologists in Public Service
			Fellow in Evaluation and Measurement
Hait, Kenneth B.	Fellow in Clinical Psychology	Long, Luther Craig	Fellow in Counseling and Guidance
Hellersberg, Elisabeth F.	Fellow in Clinical Psychology		
Hellmer, Leo A.	Fellow in Clinical Psychology	Macmillan, John W.	Fellow in Military Psychology
Herring, Amanda	Fellow in the Division of School Psychologists	Magaret, Ann	Fellow in Clinical Psychology
Hill, Lillian B.	Fellow in the Division of School Psychologists	Marrow, Altred J.	Fellow in the Division of Industrial and Business Psychology
Hinton, Ralph T., Jr.	Fellow in Clinical Psychology		
Hobson, James R.	Fellow in the Division of School Psychologists	Maurer, Katharine M.	Fellow in the Division on Childhood and Adolescence
Hunt, Thelma	Fellow in Evaluation and Measurement	McAndrew, Sister M. Bernardina	Fellow in Clinical Psychology
	Fellow in Clinical Psychology	McCollow, Ivan N.	Fellow in General Psychology
Hyman, Herbert H.	Fellow in the Society for the Psychological Study of Social Issues	McDaniel, Henry Bonner	Fellow in Counseling and Guidance
Imus, Henry A.	Fellow in Military Psychology	McGehee, Frances	Fellow in General Psychology
Irwin, Ruth	Fellow in Clinical Psychology	McMurry, Robert N.	Fellow in the Division of Industrial and Business Psychology
Jahoda, Marie	Fellow in Personality and Social Psychology		
	Fellow in the Society for the Psychological Study of Social Issues	McNamara, Walter J.	Fellow in the Division of Industrial and Business Psychology
James, William T.	Fellow in Physiological and Comparative Psychology	McNeill, Harry V.	Fellow in Clinical Psychology
Janney, J. Elliott	Fellow in the Division on Maturity and Old Age	Mehr, Helen Margulies	Fellow in Clinical Psychology
Janus, Sidney Q.	Fellow in the Division of Industrial and Business Psychology	Meyers, Charles E.	Fellow in Clinical Psychology
			Fellow in the Division on Childhood and Adolescence
Johnson, Paul E.	Fellow in Personality and Social Psychology	Miller, Maurine R.	Fellow in Clinical Psychology
		Mintz, Alexander	Fellow in General Psychology
Katz, Elias	Fellow in Clinical Psychology	Nelson, A. Gordon	Fellow in Counseling and Guidance
Katzell, Raymond A.	Fellow in the Division of Industrial and Business Psychology	Odbert, Henry S.	Fellow in Personality and Social Psychology
		Orleans, Jacob S.	Fellow in Military Psychology
		Orr, Sister M. St. Mary	Fellow in General Psychology

Otis, Jay L.	Fellow in the Division of Industrial and Business Psychology	Weaver, Herbert B.	Fellow in Counseling and Guidance
Otness, H. Robert	Fellow in Clinical Psychology		Fellow in the Division of Industrial and Business Psychology
Page, Marjorie L.	Fellow in the Division of School Psychologists	Wesman, Alexander G.	Fellow in the Division of Industrial and Business Psychology
Perkins, Keith J.	Fellow in Clinical Psychology		Fellow in Evaluation and Measurement
Raney, Edward T.	Fellow in the Division of Industrial and Business Psychology	West, Elmer D.	Fellow in Counseling and Guidance
Rappaport, John H.	Fellow in the Division of Industrial and Business Psychology	Westbrook, C. Hart	Fellow in Clinical Psychology
Reik, Theodor	Fellow in Clinical Psychology	White, Howard R.	Fellow in Clinical Psychology
Rogers, Robert C.	Fellow in the Division of Industrial and Business Psychology	Wickham, Winfield	Fellow in Clinical Psychology
Rohrer, John H.	Fellow in the Division of Industrial and Business Psychology	Wilcox, Warren W.	Fellow in Theoretical and Experimental Psychology
Root, Alfred R.	Fellow in the Division of Industrial and Business Psychology	Wiley, Llewellyn N.	Fellow in Esthetics
Royon, Andrée	Fellow in Clinical Psychology	Williams, Malcolm J.	Fellow in Evaluation and Measurement
Sacks, Jerome G.	Fellow in Clinical Psychology	Winsten, Benjamin	Fellow in Clinical Psychology
Sartain, A. Q.	Fellow in Military Psychology	Wool, Verna Levi	Fellow in Clinical Psychology
	Fellow in the Division of Industrial and Business Psychology	Worbois, Greydon M.	Fellow in the Division of Industrial and Business Psychology
	Fellow in Personality and Social Psychology	Wrightstone, J. Wayne	Fellow in Evaluation and Measurement
Schaefer, Vernon G.	Fellow in the Division of Industrial and Business Psychology	Zucker, Herbert J.	Fellow in Clinical Psychology
Seagoe, May V.	Fellow in the Division of School Psychologists		
Seaton, John T.	Fellow in Clinical Psychology		
	Fellow in the Division of School Psychologists		
Seibert, Earl W.	Fellow in Counseling and Guidance		
Smith, Kendon R.	Fellow in Physiological and Comparative Psychology		
Smith, Leo Fred	Fellow in Counseling and Guidance		
Smith, Patricia Cain	Fellow in the Division of Industrial and Business Psychology		
Spache, George D.	Fellow in the Division of School Psychologists		
Speer, George S.	Fellow in Clinical Psychology		
	Fellow in Counseling and Guidance		
Stauffer, James C.	Fellow in Clinical Psychology		
Troup, Evelyn	Fellow in Clinical Psychology		
Tuddenham, Read D.	Fellow in Clinical Psychology		
Tyler, Leona E.	Fellow in Counseling and Guidance		
Udow, Alfred B.	Fellow in the Division of Industrial and Business Psychology		
Underwood, Benton J.	Fellow in Theoretical and Experimental Psychology		
Van Buskirk, William L.	Fellow in the Division of Industrial and Business Psychology		
Van Tuyl, Mary C.	Fellow in Clinical Psychology		
Vernon, Leroy N.	Fellow in the Division of Industrial and Business Psychology		
Vinacke, W. Edgar	Fellow in General Psychology		
Wallace, S. Rains, Jr.	Fellow in Military Psychology		

5. The Council voted to waive the requirement of a doctoral degree based upon a psychological dissertation (By-Laws, Article II, Section 3) and to elect as Fellows Eston J. Asher, Sibylle K. Escalona, Henry A. Imus, Jerome G. Sacks, and George S. Speer (titles in previous list).

6. The Executive Secretary announced the election of the following 802 new Associates by the Board of Directors:

ASSOCIATES, 1948

Aborn, Murray	Armbruster, Gordon Henry
Abramsky, Murray	Armstrong, Sister Dolores Marie
Addis, Leon Phillip	Artus, Wilma Edith
Aldrich, Cecelia Gorsuch	Austrin, Harvey Robert
Aldrich, Margaret Glockler	Axelrod, David W.
Alexander, Lawrence Theodore	Axelrod, Joseph
Alm, Oscar William	Ayrault, Evelyn West
Alpert, Richard	Baker, Gertrude
Altowitz, Nathan	Ball, Frances M.
Amft, Fred Paul	Barker, William Sterling
Andersen, Albert Lloyd	Barnett, Doris Mae
Andersen, Holger W.	Barnett, Gordon James
Anderson, Mrs. Anna Babcock	Barnett, Irving
Anderson, Richard James	Baron, Robert B. Denis
Andrews, Mrs. Dorothy Craighead	Barrett, Sister Mary Dominica
Andriola, Joseph	Bartlett, Harold Vernon
Angell, George Ward	Bassett, Dorothy Mayhew
Arcieri, Libero	Bauer, Agnes Mary
	Baugh, Verner Schoolfield

- Bay, Mrs. Margaret S.
 Beamer, George C.
 Beardsley, Seymour Willis
 Bechtel, Mrs. Carter N.
 Beer, Mary Elizabeth
 Begley, Joseph Thomas
 Beigel, Hugo George
 Bell, Elizabeth Cordelia
 Bendig, Albert William
 Bennett, Margaret Elaine
 Beran, Mrs. Marianne
 Berkowitz, Leonard Mitchell
 Berkshire, James Roger
 Berry, Mrs. Jane B.
 Bills, Robert E.
 Bingham, William Eugene, Jr.
 Birrer, Ivan J.
 Bishop, Mrs. Marcella Bogan
 Black, Mrs. Lila Smith
 Black, Percy
 Blair, Norman John
 Blake, Wainwright Donald
 Blasdell, Mrs. Elsie V.
 Blechner, Mrs. Janet Eliscu
 Blek, Libby
 Bloom, Irwin M.
 Bloss, Peter
 Bowers, Russell Carson
 Bowman, Mrs. Lillie Lewin
 Boylan, Laurence Charles
 Braasch, William F., Jr.
 Brackett, Catherine Williams
 Bramhall, Elinor Eugenia
 Brand, Renee
 Braun, Harry W.
 Brennan, Martin Joseph
 Brenner, Rose
 Brewer, Irene E.
 Broder, Lois Jean
 Brown, David
 Brown, Mrs. Frances Covitt
 Brown, Martha Marlin
 Brown, Mrs. Orpha Johnson
 Brown, Mrs. Vera Albright
 Browne, Arthur Donald
 Brownfain, John Jonah
 Broxson, John Alfred
 Brozgal, Joseph Lewis
 Bruce, Martin Marc
 Brumer, Mrs. Beatrice Weissman
 Buchanan, Paul Cramer
 Buchsteiner, Margaret E.
 Buck, Phil Walter
 Buehler, Roy Edward
- Burke, Phyllis
 Burnham, Catharine Annette
 Byrns, Ruth Katherine
 Cahen, Eleanor R.
 Callis, Robert
 Campbell, Sam Lewis
 Cannicott, Richard Grenville
 Canny, J. Francis
 Cantrell, George Kenner
 Caplan, Naomi
 Cardona, Lidia Alvarez
 Carr, Arthur Charles
 Carr, Edward Robert
 Carr, Paquita R.
 Carroll, Robert Paris
 Carron, Rev. Lionel Vanier
 Carter, Linda Louise
 Casey, Mary Louise
 Cass, Mrs. Loretta Kekeisen
 Cassell, Robert Hood
 Cease, Eugene Ames
 Ceres, Carmela Mildred
 Chandler, Albert Richard
 Checov, Louis
 Chen, William Keh Ching
 Childe, Laurel
 Chow, Kao-Liang
 Clapp, Elizabeth Jane
 Clarke, Frank Randall
 Clarke, Helen Jane
 Clarke, Sarah Ann
 Clendenen, Dorothy Marguerite
 Cobb, Henry Van Zandt
 Cohen, Mrs. Mathilde Weill
 Cohen, Theodore Benjamin
 Coleman, William
 Colen, Dolores
 Conant, James Caldwell
 Cooper, John Andrew
 Corcoran, Frances Patricia
 Couey, Fred
 Cox, Mrs. Rachel Dunaway
 Craig, William Gregory
 Creedon, Mrs. Carol F.
 Crovetto, Lorraine Leona
 Cruickshank, William M.
 Cutsforth, Thomas Darl
 Dane, Harry Robinson
 Daniels, Neil Moret
 Davidoff, Mrs. Isabel Shulamith
 Davis, Evelyn Sothron
 Davison, Arthur H.
 Dawson, Joseph Green
 Deahl, Katharine
 Deeg, Maethel Elaine
 Deegan, James Vincent
- deGroat, Albert Ford
 Deignan, Francis James
 Dellefield, Calvin Jack
 De Martino, Manfred Frank
 Deutsch, Martin L.
 D'Evelyn, Katherine Edith
 Dewey, Charles Sherman
 Dewey, Mrs. Rebecca Arnell
 Diamond, Matthew
 DiMeo, Rose Andrea
 Dixon, James Cannon
 Dodd, Eileen Kramer
 Doertler, Leo G.
 Donahoo, Durward Aubrey
 Dosier, Mrs. Charlotte Hayes
 Doty, Mrs. Cornelia Allen
 Douglass, Frances Millicent
 Dowd, Francis Michael
 Dowd, Sister M. Amadeus
 Downie, Norville Morgan
 Doyle, Charles Ignatius
 Drake, Mildred Field
 Dreikurs, Eric
 Dressler, Marguerite Ruth
 Dubin, Mrs. Elisabeth Ruth
 Duncan, Bertha Kathleen
 Dunlap, Dale Nelson
 Dunlap, Helen Leslie
 Durfee, Hildegard
 Dyer, Charles Edward
 Dykman, Ross Arnold
 Eaton, Othra Elsie
 Edler, Margaret Florence
 Edscorn, Mrs. Mary Thompson
 Eiduson, Mrs. Bernice T.
 Elkan, Jane Margaret
 Elkin, Victor B.
 Elliott, Eugene
 Elste, Ellen Anne
 Emery, David Amos
 Enneis, James M.
 Epstein, Bertram
 Erickson, Leona May
 Eron, Leonard D.
 Estensen, Ernest V.
 Evans, Ralph M.
 Fahey, George Litchfield
 Farberow, Norman Louis
 Feldman, Fred
 Feldman, Mrs. Shirley Z.
 Fenn, Augustus Hall
 Ferguson, Charles K.
 Ferguson, Robert Gordon
 Ferson, Regis Francis
 Feuerburgh, Joseph Nathan
- Fiedler, Fred E.
 Fils, David H.
 Fink, Aaron
 Finke, Helene Myra
 Fitzwater, Mylen Ezra
 Fleming, Louise
 Fletcher, Raymond H.
 Flynn, William J., Jr.
 Fonda, Charles Percy
 Ford, Lula Bess
 Forster, Cecil R.
 Foster, Austin
 Foster, Dean
 Fox, Bernard H.
 Fox, Margaret Elizabeth
 Frankfeldt, Eli
 Fredericson, Emil
 French, Benjamin Jones
 French, Edward Livingstone
 Friedman, Merton Hirsch
 Fritz, Janet Fay
 Frost, Edwin Richardson
 Galantiere, Harriette Ann
 Galvin, Nancy
 Gardner, Eric Freeman
 Garfield, Mrs. Edith Townsend
 Garfield, Mrs. Marjorie Saul
 Garman, Louise Wynn
 Garrison, Mortimer, Jr.
 Gaskill, Peter Carl
 Gehlmann, Frederick
 Geist, Harold
 Gellman, William
 Genn, Mrs. Minnie Marder
 Gens, George William
 Gerber, Joe Newton
 Gewirtz, Jacob L.
 Gibbon, Ralph Milton
 Gieber, Walter
 Gilchrist, Mrs. Ann Benson
 Gilchrist, Jack Cecil
 Gilchrist, John W.
 Girdner, John Byron
 Gladstone, Arthur Isaiah
 Glancey, Dorothy Elizabeth
 Glasser, Shirley Louise
 Glickman, Albert S.
 Glock, Marvin David
 Glogower, Jules
 Gluck, Samuel
 Gobey, John Timothy
 Goins, Mrs. Jean Turner
 Goldman, Bernard
 Goldman, George David
 Goldner, Ralph H.
 Goldstein, Hyman
 Goldstein, Jacob

Stewart, Robert Silas
 Stilwell, Mrs. Catherine
 Favour
 Stockey, Merrel Richard
 Stout, Mrs. Mary O'Dea
 Strait, Bennett Sucece
 Stubbins, Joseph
 Stuntz, Stephen Emil
 Sturm, Joseph
 Sward, Keith
 Sweeney, Edward Joseph
 Sweeting, Benjamin
 Swift, William Porter
 Tate, Merle Wesley
 Taylor, Janet Allison
 Tecler, William
 Telschow, Earl Franklin
 Temkin, David
 Teska, Percy Thomas
 Thibaut, John Walter
 Thomas, Mrs. Marguerite
 Rades
 Thompson, Cary Anderson,
 Jr.
 Thompson, Florence M.
 Thompson, Mary Madeline
 Thompson, Max Eugene
 Thompson, William James
 Thompson, William Robert
 Thoroman, Elbert Clyde
 Tierney, Thomas Eugene
 Tomedly, Francis Joseph
 Tomlin, Frank E.
 Topping, Mrs. Marion
 Beatrice
 Torrance, Ellis Paul
 Tracht, Vernon Sloan
 Trachtman, Alvin
 Traphagen, Arthur Liew
 Treon, Raymond Samuel
 Trout, Alfred Fletcher
 Tsai, Loh Seng
 Tuason, Roman Crespo
 Tully, Marguerite
 Tupes, Ernest Cook
 Turner, Anne Elizabeth
 Turner, Gordon Haslam
 Twinting, Alice Margaret
 Tye, Vermont Miller
 Ullman, Mrs. Marguerite
 Kelpsck
 Utter, Robert Fellows
 Vaccaro, Michael James
 Valley, John R.
 Van Court, S. Woodrow
 Vander Beke, George Emil
 Vandever, Mrs. Marguerite
 Griffith
 Van Dusen, Frances M.

Verniaud, Mrs. Willie
 Maude
 Volkin, Leonard
 Wahoske, Mrs. Jean Maier
 Waldman, Marvin
 Walker, Robert Gregory
 Wallace, Anna Bell
 Wallace, Karl Miles
 Waller, Earl Allen
 Wallin, Paul
 Wallin, Virginia Stanton
 Walter, Mrs. Sylvia
 Wisman
 Wann, Trenton William
 Ward, Ernest Homer
 Warren, Sol L.
 Washburne, Mrs. Vera
 Zaliaznick
 Watson, Walter Elbert
 Wauck, LeRoy Albert
 Wauters, Mrs. Helen
 Lucile Baird
 Webb, Ruth Lillian
 Weinbauer, John
 Brinkerhoff
 Weisgerber, Rev. Charles
 August
 Weissman, Martin Paul
 Weissmann, Serena
 Welch, Josephine Sterling
 Wendorf, Robert A.
 Wenrick, John Everett
 Wentworth, Kenneth Leon
 Wentworth-Rohr, Ivan
 Wenzel, Rev. Martin
 Robert
 Westburgh, Edward
 Martin
 Whitchurch, Mrs. Anna
 Kellman
 Whitehouse, Frederick A.
 Whiteleather, Mrs. Eleanor
 Lindsay
 Wiebe, Gerhart David
 Wigdor, Mrs. Blossom T.
 Wilner, Mrs. R. Stefanie
 Wilson, Clark Loudon, Jr.
 Wilson, Claude E.
 Wilson, J. Watson
 Wilson, James Warner
 Wilson, William August, Jr.
 Wispe, Lauren Glasgow
 Withall, John George
 Wittig, Ruth Babette
 Witty, Ruth W.
 Wolf, Joseph
 Wolfson, Mrs. Kate Senior
 Wood, Edgar Otto
 Wood, Gertrude
 Wood, Mrs. Grace Ford
 Woodman, Everett Milton

Worthington, Richard Ellis
 Wursten, Helmut
 Zaccaria, Michael Angelo
 Zeff, Leo J.

Zimmerman, Mrs. Alice
 Beebe
 Zimmerman, Juliet
 Zweck, Lucile Gertrude

7. The Council voted to reinstate the following members:

A. Cornsweet
 J. B. Maller
 N. J. Van Steenberg

8. The Executive Secretary announced that the following persons elected as Associates at the September 1947 and March 1948 meetings, by reason of inaccessibility or for other reasons, did not validate their election:

Fred Feldman	Richard Robert Lamy
Louise Wynn Garman	Leon Beecher Slater
Frederick Joseph Gaudet	Mrs. Rosalie Sofin
Lestina Marguerite Grant	Mrs. Marguerite Rades
Harold Kanter	Thomas

C. REPORTS OF AMERICAN PSYCHOLOGICAL ASSOCIATION COMMITTEES AND ACTIONS ON COMMITTEE RECOMMENDATIONS

1. The Council voted to accept the report of the Policy and Planning Board as printed in the *American Psychologist*, 1948, 2, 187-192.

2. The Council voted to approve the objectives stated in the Policy and Planning Board's research policy report for psychology and to authorize the Officers of the Association to seek outside financial help to support this undertaking.

3. The Council voted that the report of the Board of Editors be accepted and printed in the *Proceedings*.

4. The Council voted that the report of the Conference of State Psychological Associations be accepted and printed in the *Proceedings*.

5. The Council voted to submit to the membership at the next regular election an amendment to the By-Laws changing the third sentence of Article XV, Section 4, to read: "A quorum shall consist of at least one official representative from each of one-third of the member Associations".

6. The Council voted to submit to the membership at the next regular election an amendment to Article II, Sections 9 and 10, to make those sections read as follows:

"Section 9. Persons who belong to a division of the Association but who do not hold membership in the Association itself may become Division Affiliates upon proper application. A division

may include those who either do not qualify for Associate membership or do not wish such membership.

"Section 10. Persons who belong to a state psychological association affiliated with the Association, but who do not hold membership in the Association itself, may become State Affiliates upon proper application."

7. The Council voted to submit to the membership at the next regular election the following change in By-Laws: Rescind Section 3, Article IV, as no longer necessary in view of changes in the methods of electing Council members.

8. The Council voted to submit to the membership at the next regular election the following change in By-Laws: In Section 3, Article III, change "September" to "at the time and place of the annual convention" in specifying when the Council will hold the annual meeting.

9. The Council voted that the report of the Committee on Committees be accepted and printed in the Proceedings.

10. The Council voted that the report of the Finance Committee be accepted and printed in the Proceedings.

11. The Council voted that the Treasurer and Executive Secretary be authorized to proceed with bonding the office staff of the American Psychological Association.

12. The Council voted that the report of the Election Committee be accepted and printed in the Proceedings.

13. The Election Committee reported that the following amendments were passed by the membership and are now in effect:

- a. The proposal to allow psychological associations of the provinces of Canada to become affiliated with the American Psychological Association carried by a vote of 1989 to 65.
- b. The proposal to change the requirement for election as a Fellow to "five years of acceptable professional experience subsequent to the granting of the doctoral degree" carried by a vote of 1465 to 588.
- c. The proposal to change the term of office of Division Representatives from one year to three years carried by a vote of 1987 to 67.
- d. The proposal to change the term of office of Representatives of the Conference of State Psychological Associations from two years to three years carried by a vote of 1985 to 68.

14. The Council voted that the report of the Committee on Student Affiliates be accepted and printed in the Proceedings.

15. The Council voted that the report of the Committee on Public Relations be accepted and printed in the Proceedings.

16. The Council voted to instruct the Committee on Public Relations to make an analysis and present a report of the various activities of the American Psychological Association and its members which are now contributing in either a positive or negative manner to good public relations.

17. The Council voted that the report of the Committee on Publications be accepted and printed in the Proceedings.

18. The Board of Directors announced to the Council that it has requested the Committee on Publications to prepare a policy report for the March meeting of the Board of Directors on the overall problems of the Association publications which will arise during the next decade, such as the kinds of journals which the Association should support, publication lag, financial problems of publications, and distribution of journals.

19. The Council voted that the report of the Committee on Precautions in Animal Experimentation be accepted and printed in the Proceedings.

20. The Council voted that the report of the Committee on Audio-Visual Aids be accepted and printed in the Proceedings.

21. The Council voted that the report of the Committee on Graduate and Professional Training be accepted and printed in the Proceedings and that this Committee be discharged with thanks.

22. The Council voted that the report of the Committee on Standards for Psychological Service Centers be accepted and printed in the Proceedings. The Council voted that this Committee be continued and that it be asked to prepare for the March meeting of the Board of Directors an analysis of the results of the study on Psychological Service Centers, with specific recommendations of criteria to be used in selecting service centers for inclusion in the directory. It was suggested that the Committee examine the directories now in preparation by other organizations.

23. The Council voted that the report of the Committee on International Planning in Psychology be accepted and printed in the Proceedings. The Council voted that the name of this Committee be

changed to "Committee on International Relations in Psychology".

24. The Council voted that the report of the Committee of University Department Chairmen be accepted and printed in the Proceedings.

25. The Council voted that the report of the Committee on Clinical Training in Psychology be accepted and printed in the Proceedings.

26. The Council voted that the Committee on Clinical Training in Psychology be reorganized as follows:

- a. The Committee shall consist of nine members.
- b. At the September 1948 meeting of the American Psychological Association three new members shall be elected for three-year terms, who, in addition to the present six members of the Committee, will constitute its personnel. At the annual meeting of the American Psychological Association each year thereafter three new members shall be elected for three-year terms.
- c. No member of the Committee shall serve for more than two successive terms except after an intervening period.
- d. Not less than five members of the Committee shall be Diplomates in Clinical Psychology of the American Board of Examiners in Professional Psychology.

27. The Council voted that the report of the Committee on Relations with the Social Work Profession be accepted and printed in the Proceedings.

28. The Council voted that the report of the Committee on the Relation of Psychology to Psychiatry be accepted and printed in the Proceedings.

29. The Council voted to reconstitute the Committee on Ethical Standards in Psychology with Nicholas Hobbs as Chairman and Stuart W. Cook, Harold A. Edgerton, and Lloyd N. Yepsen as members and that the Committee be authorized to add other members as they see fit.

30. The Council voted to approve the proposal of the Committee on Ethical Standards in Psychology for devising a code of ethical practices; to authorize the allocation of \$3,050 necessary for the first year's preliminary work on the project; and to instruct the Officers of the Association to seek outside financial aid for the remainder of the project.

31. The Council voted that the report of the Committee on Scientific and Professional Ethics be accepted and printed in the Proceedings.

32. The Council voted that the problem of working out a code of practice for the sale and distribution

of psychological tests and diagnostic aids be referred to the Committee on Ethical Standards in Psychology for study and action by a subcommittee appointed to consider the problem.

33. The Council voted to continue the Committee on Psychology and World Affairs, changing its name to "Committee on Implications of Atomic Energy for Psychology."

34. The Council voted that the report of the Convention Program Committee be accepted and printed in the Proceedings if it is received in time to be published.

D. REPORTS OF AMERICAN PSYCHOLOGICAL ASSOCIATION REPRESENTATIVES TO OTHER ORGANIZATIONS

1. The Council voted that the report of the Representatives to the Social Science Research Council be accepted and printed in the Proceedings.

2. The Council voted that the report of the Representative to the American Documentation Institute be accepted and printed in the Proceedings.

3. The Council voted that the report of the Representatives to the Inter-Society Color Council be accepted and printed in the Proceedings.

4. The Council voted that the report of the Representative to the National Council on Rehabilitation be accepted and printed in the Proceedings.

5. The Council voted that the report of the Representatives to the Inter-Society Committee for a National Science Foundation be accepted and printed in the Proceedings.

6. The Council voted that the American Psychological Association discontinue its representation on the Advisory Council on Human Relations in Conservation.

7. The Council voted that the report of the Representatives to the American Standards Association, Sectional Committee on Optics, be accepted and printed in the Proceedings.

8. The Council voted that the report of the Representatives to the American Association for the Advancement of Science be accepted and printed in the Proceedings if it is received in time to be included.

9. The Council voted that the report of the Representatives to the National Research Council be accepted and printed in the Proceedings if it is received in time to be included.

E. ELECTIONS

1. The Council voted that the following persons be nominated for membership on the Board of

George K. Bennett
John G. Darley
Paul Horst
T. W. Richards

May V. Seagoe
David Shakow
Carroll L. Shartle
Donald E. Super

John G. Peatman (1948–50)
Edwin G. Boring (1948–51)
Jean W. Macfarlane (1948–51)
Donald G. Marquis (1948–51)

6. The following persons were elected by the Council as new members of American Psychological Association committees for the terms indicated:

Charles N. Cofer (1948-53)	Committee on Committees
Willard C. Olson (1948-49)	Finance Committee
Roger G. Barker (1948-51)	Convention Program Committee
Norman L. Munn (1948-53)	Committee on Scientific and Professional Ethics

Lloyd G. Humphreys (1948-53)	Committee on Student Affiliates
John W. Gardner (1948-51)	Committee on Public Relations
David Krech (1948-50)	Committee on Public Relations
Paul M. Fitts (1948-51)	Committee on Publications
Francis W. Irwin (1948-50)	Committee on Publications
Lyle H. Lanier (1948-51)	Committee on Publications
Fred S. Keller (1948-51)	Committee on Precautions in Animal Experimentation
J. J. Gibson	Committee on Audio-Visual Aids
Arthur A. Lumsdaine	Committee on Audio-Visual Aids
Leonard C. Mead	Committee on Audio-Visual Aids
Margaret Brenman	Committee on the Relation of Psychology to Psychiatry
J. McV. Hunt	Committee on the Relation of Psychology to Psychiatry
Margaret Hall	Committee on International Re- lations in Psychology
Otto Klineberg	Committee on International Relations in Psychology
Donald V. McGranahan	Committee on International Relations in Psychology

Ruth S. Tolman

Leonard Carmichael (1948-50)	American Association for the Advancement of Science
W. J. Brogden (1949-52)	National Research Council
Starke R. Hathaway (1949- 52)	National Research Council
Donald W. Taylor (1949- 52)	National Research Council
Lyle H. Lanier (1949-51)	Social Science Research Council
Henry A. Imus (1948-49)	Inter-Society Color Council

Robert H. Seashore	Committee on Committees
Irvin L. Child	Convention Program Committee
Horace B. English	Committee on Scientific and Professional Ethics
Francis P. Robinson	Committee on Student Affiliates
Daniel Katz	Committee on Public Relations
Robert H. Bruce	Committee on Precautions in Animal Experimentation

Arthur A. Lumsdaine	Committee on Audio-Visual Aids
Wm. Clark Trow	Committee on Standards for Psychological Service Centers
Margaret Brenman	Committee on the Relation of Psychology to Psychiatry
H. S. Langfeld	Committee on International Relations in Psychology
David Shakow	Committee on Training in Clinical Psychology
Nicholas Hobbs	Committee on Ethical Standards in Psychology
J. McV. Hunt	Committee on Relations with the Social Work Profession
Eugene L. Hartley	Committee on Implications of Atomic Energy for Psychology

F. DIVISIONS

1. The Council voted that the Divisions of Physiological and Comparative Psychology and Theoretical-Experimental Psychology be permitted to amalgamate when the two Divisions have so voted.

2. The Council voted that the number of Representatives for each division be determined each year by the Board of Directors at its winter meeting.

3. The Board of Directors announced that it had instructed the Executive Secretary to report to each division the names of its members who fail to pay division dues, and that this should be considered to constitute resignation from the division.

G. REQUESTS FOR AFFILIATION WITH THE AMERICAN PSYCHOLOGICAL ASSOCIATION

1. The Council voted the approval of the requests for affiliation from the State Psychological Societies of Colorado, Delaware, Missouri, North Carolina, Oklahoma, Texas, Virginia, and Washington.

2. The Council voted to defer action on the petition of the Illinois Association of Applied Psychology.

3. The Council voted that the requests for affiliation with the American Psychological Association which have been received from California, Illinois, Iowa, and Louisiana be referred to the Board of Directors for study in order that final action may be taken at the 1949 meeting.

4. The Council voted that the request of the International Council of Women Psychologists for affiliation with the American Psychological Association be referred to the Board of Directors for study in order that final action may be taken at the 1949 meeting.

H. PUBLICATIONS

1. The Council voted to adopt the following arrangements for Club groups of American Psychological Association journals:

a. All American Psychological Association journals will be sold to the members for \$20. This is the present Group A.

b. A subscription to any journal which the individual wishes shall be made available at the rate of \$3.00 per year. A member or affiliate may subscribe to any number of journals he wishes at this rate (see page 483, Action on *Journal of Experimental Psychology*).

2. The Council voted to continue the practice of permitting payment for prior publication at the discretion of each editor of the American Psychological Association journals.

3. The Council voted that no detailed Directory of the members of the Association be issued before 1951, and that a Yearbook be brought out in 1949 containing the name, position, and address of each member, and such other items as were suggested by the Council in an advisory vote, insofar as these are financially feasible.

I. EXECUTIVE SESSION

1. At 10:30 p.m., September 8, the Council went into executive session to hear a report from Gordon W. Allport, Chairman of the Committee on Scientific and Professional Ethics. The Council voted that the following recommendation of the Committee be approved and published in the Proceedings:

The Committee on Scientific and Professional Ethics recommends to the Directors and Council of Representatives that the resignation of — now before them be not accepted, and that he be expelled from this Association.

The Committee recommends this action in view of Mr. —'s falsification of his application blank for membership. He was admitted to Associate Membership effective January 1, 1947, partly on the basis of his claim to a Master of Arts and a Doctor of Philosophy degree from Temple University. Both claims were false.

Mr. — has waived his right to appear before the Committee for a hearing, and has admitted the charge against him, writing to the Committee Chairman as follows: "I know that any decision you make will be equitable, and I shall accept it as merited." He goes on to express the hope that he will be allowed to resign. The Committee feels,

however, that membership in the Association obtained on a fraudulent basis should not carry with it the privilege of voluntary resignation.

The Committee recommends that expulsion be not regarded as a bar to reapplication provided the applicant's credentials are suitable and provided the sponsors to his application consider all facts relevant to the case.

September 8, 1948 Committee on Scientific and
Professional Ethics
Gordon W. Allport,
Chairman

J. 1950 ANNUAL MEETING

1. The Council voted that the Association accept the invitation of Pennsylvania State College to meet at State College, Pennsylvania, in 1950.

K. BUDGET

1. The Council voted to approve the budget for 1949 as submitted by the Board of Directors with changes to conform with actions of the Council. (See below.)

L. MISCELLANEOUS NEW BUSINESS

1. The Board of Directors announced the receipt of an anonymous donation of \$100 "to be awarded to the best paper on psychology in 1948". The Board proposes to discuss the disposition of this money at its March meeting in 1949.

2. The Council voted that the Executive Secretary be instructed to prepare a brochure of information for students interested in research and professional opportunities in psychology.

3. The Council voted that the President of the Association appoint a committee to study the problems of specialized training in psychology at less than the PhD level, and that the committee be instructed to keep in contact with a similar committee of the Conference of State Psychological Associations.

4. The Council voted that the proposal of the Conference of State Psychological Associations to remove all limits on the number of Representatives from a division or other group be referred to the Policy and Planning Board for study in 1950.

5. The Council voted that the problem of providing alternate representatives to Council be referred to the Policy and Planning Board for study and report at the next annual meeting.

6. The Council voted that at the next annual

meeting, in the event there is no Representative of a division present, the Council will seat a person designated by the Officers or Executive Committee of the division.

7. The Council voted to increase for a period of one year the size of the *Journal of Experimental Psychology* to 960 pages. The Executive Secretary was authorized to decide whether the increase should consist of two volumes of 480 pages each, or a single volume of 960 pages. It was understood that the Club price of the Journal would, as a consequence of this increased size, be \$6.00 per year.

8. The Council voted that the President of the Association be empowered, if he sees fit, and on a vote of the Board of Directors, to take appropriate action in the name of the Association with respect to the various groups and institutions concerned with loyalty investigations, and specifically with respect to the investigations in progress at the University of Washington.

9. The Council voted that the Convention Program Committee should provide Division Program Committees with a skeleton program of meetings in time to guide divisions in making out their own programs. It was understood that the Convention Program Committee would retain final authority to revise the program as they saw fit.

10. The Council voted to approve the following resolution: "Be it resolved that the American Psychological Association extend its thanks to Dr. Irving C. Whittemore and the members of the Committee on Local Arrangements for their efficient handling of arrangements for the Fifty-Sixth Annual Meeting of the Association".

BUDGET FOR 1949

		Income	
<i>From Members</i>			\$138,900
Associate Dues	(4600 @ 11.50)	\$52,900	
Fellow Dues	(1300 @ 16.50)	21,450	
Student Affiliate Dues	(1500 @ 7.50)	11,250	
State, Division, & Foreign Affiliate Dues	(200 @ 4.00)	800	
For Divisions		7,500	
Clubs and journal subscriptions		45,000	
<i>Supplementary Subscriptions</i>			\$50,400
American Psychologist		\$2700	
Journal of Abnormal and Social Psychology		7300	
Journal of Applied Psychology		8200	
Journal of Comparative and Physiological Psychology		2300	
Journal of Consulting Psychology		4100	
Journal of Experimental Psychology		4900	

Psychological Abstracts	8800
Psychological Bulletin	5600
Psychological Monographs	1600
Psychological Review	4900
Advertising	\$5,300
Separate Sales of Back Numbers	\$10,000
From Authors for Reprints, and Extra and Prior Publication	\$8,000
From Authors for Monograph Printing	\$1,000
Interest on Investments and Savings	\$2,300
Grant from US Public Health Service	\$6,000
Miscellaneous Income	\$1,000
TOTAL INCOME	\$222,900

Expenses

Printing Costs	\$102,300
American Psychologist	\$15,200
Journal of Abnormal and Social Psychology	8,700
Journal of Applied Psychology	8,900
Journal of Comparative and Physiological Psychology	6,000
Journal of Consulting Psychology	5,800
Journal of Experimental Psychology	8,600
Psychological Abstracts	19,400
Psychological Bulletin	9,000
Psychological Monographs	9,200
Psychological Review	6,500
Yearbook	5,000
Reprint Costs	\$7,000
Editorial Stipends	\$4,800
Central Office Expense	\$55,050
Salaries	\$43,000
Supplies and Printing	7,500
Miscellaneous	2,000
Equipment	1,000
Professional Services (including audit)	500
Bonding Office Employees	1,050
Abstracts Editorial Expense	\$8,000
To Abstractors and Translators	1,000
Salaries	6,500
Supplies and Miscellaneous	500
Stipend to Recording Secretary	\$400
To Divisions	\$7,500
Committee Expense	\$12,950
Program	\$500
Standards for Psychological Service Centers	650
International Relations	100
Policy and Planning Board	1500
Ethical Standards	3050
Relation of Psychology to Psychiatry	500
Publications	300
Committee on Training in Clinical Psychology	6000
Conference of State Psychological Assns	350
Memberships	\$125
National Council on Rehabilitation	\$50
American Council of Education	50
Inter-Society Color Council	25
Annual Meeting	\$3,000

Rent	\$3,000
Building Fund	\$5,000
Travel	\$5,500
Board of Editors	\$1,000
Executive Secretary	2,500
Board of Directors	2,000
Contingency	\$5,000
TOTAL EXPENSE	\$219,625
NET INCOME	\$3,275

REPORT OF THE RECORDING SECRETARY

To the Council of Representatives:

Members of the Board of Directors held their semi-annual meeting in Ann Arbor, Michigan, March 19, 20, and 21, 1948. The following Board members were present: Richard M. Elliott, Clarence H. Graham, Donald G. Marquis, Theodore Newcomb, Helen Peak, Robert R. Sears, Laurance F. Shaffer, and Carroll L. Shartle.

REPORTS OF OFFICERS

1. The Executive Secretary reported the status of the work of the Central Office during the last six months and outlined the agenda for the Board meeting.

2. The Recording Secretary reported the results of two ballots sent to the Board since the September meeting. On October 27, 1947, the Board approved a budget of \$650 submitted by the Conference of State Psychological Associations. On December 10, 1947, the members voted to hold their semi-annual meeting March 19, 20, and 21 at Ann Arbor, Michigan.

3. The Treasurer presented his report to the Board.

MEMBERSHIP

1. It was voted to accept as Associates the 779 persons who had met the requirements and to instruct the Executive Secretary to approve certain other names on receipt of additional information.

2. The present application blanks and procedures for electing Associates were reviewed, and it was voted that in cases where the applicant does not have a PhD based on a psychological dissertation accepted by a recognized university, he must furnish: (a) the names of two of the persons under whom he did his graduate work, and (b) a transcript of his graduate work.

3. It was voted that the application blank should include a space for the date and place where the AB degree was obtained.

4. It was voted to recommend to Council that the privilege of reinstatement on payment of current and one year's past dues by persons whose dues had been allowed to lapse during military service be withdrawn.

5. It was voted that the Executive Secretary be directed to instruct divisions that persons who are members of the APA cannot be Division Affiliates, according to the By-Laws, Article II, Section 9.

6. The question was raised whether all persons who are members of affiliated State Psychological Associations and who are not members of the APA are required to become State Affiliates of the APA. It was voted that the By-Laws be interpreted to mean that such persons are not required to become State Affiliates; that this interpretation of the By-Laws be transmitted to the State Societies; that persons wishing to become State Affiliates be instructed to send their applications to the Central Office of the APA, via the secretary of the State Association (or division); and that the Executive Secretary be instructed to confer with the State Societies who raised this question to the end that they draft a proposal to the Council amending the By-Laws to make this point clear.

7. It was voted that the Executive Secretary be authorized to continue his present arrangement with the Division of School Psychologists for the time being but that in the future dues be collected only once a year.

CENTRAL OFFICE

1. The Executive Secretary reported the receipt of galley proof of the Directory of the APA. It was voted that a study of the information in this directory be proposed to the Policy and Planning Board for their use in studying the structure of the Association in 1950 and that for the present a simple hand tally of the information be made for current use.

2. It was voted that Carroll L. Shartle and Helen Peak be authorized to make deposits and withdrawals from the account of the APA in the Huntington National Bank of Columbus, Ohio.

3. The Board agreed that the work of the Central Office had become so extensive that it required the appointment of two persons, one an Assistant to the Director and the other an Office Manager. It was

voted to create these two positions and to provide funds for the purpose.

ANNUAL MEETING

1. In view of the increasingly complicated problems connected with making local arrangements for annual meetings, it was voted that the Executive Secretary be authorized to employ a suitable person to direct the local plans for the next annual meeting and to expend whatever is necessary to this end.

2. It was voted that \$200 be appropriated for the purpose of showing non-member films at the Boston meeting.

TRAINING IN CLINICAL PSYCHOLOGY

1. The report of the Committee on Training in Clinical Psychology was presented for discussion. It was voted that the report be accepted with the changes suggested; that it be published in the *American Psychologist*; and that copies be sent to the universities involved. (The objections of certain universities were received and considered by the Committee on Training in Clinical Psychology and by the Board of Directors. The proposed action was rescinded and a revised report approved by mail ballot).

2. It was voted that a person be employed during 1948-49 to serve as full-time Executive Officer for the Committee on Training in Clinical Psychology; that the Committee be authorized to select this person; and that a sum of \$12,000 be appropriated for the work of the Committee, this sum to be charged against the USPHS grant, if and when received.

COMMITTEE PROBLEMS

1. A memorandum from the Committee on Committees was presented to the Board, including a recommendation that the Committee on Committees be abolished. After considering the functions of this Committee as provided in the By-Laws, the Board agreed that it was unwise to propose any alteration of committee structure without further study of the structure of the Association.

2. It was voted that the Executive Secretary be instructed to send a form letter to Department Chairmen, State Societies, and Division Officers, requesting suggestions of names for Association committees; that these suggested names be accompanied by a paragraph regarding the qualifications of the nominee and specifying the committee

on which he might serve most effectively; and that this list of names be brought to the spring meeting of the Board of Directors each year.

3. It was voted that the above proposal be reported to the Committee on Committees for consideration and that they be requested to report their reaction to the proposal before the September meeting.

4. It was voted that the chairmen of special committees be consulted prior to and following the spring meeting of the Board concerning their recommendations of committee members.

5. The Executive Secretary read a letter from the Division of Educational Psychology proposing three names for nomination to the Board of Examiners. Action was deferred until September.

6. It was voted that the Executive Secretary be instructed to request committee chairmen to be brief and concise in the reports which they submit for publication and that they submit additional reports to the Board of Directors if they wish to elaborate.

7. In connection with the discussion of the report of the Committee on Public Relations, it was voted to employ some appropriate person who will provide public relations advice on the problem of improving the newspaper reports of papers presented at the annual meeting.

NOMINATIONS

1. A partial slate of nominations to Association committees and organization representatives was drawn up. This slate is to be completed at the September meeting of the Board and presented to the Council for action.

2. The Executive Secretary reported requests from the Surgeon General, from the United States Public Health Service, and from the Army for committees to consult on psychological problems. The following were selected by the Board of Directors from lists of nominations obtained from Division Officers:

a. Surgeon-General's Advisory Committee: Robert C. Challman, Howard F. Hunt, Max Hutt, Morris Krugman, Donald W. MacKinnon, Walter R. Miles, James G. Miller, T. W. Richards, Morton Seidenfeld, Donald E. Super, Robert White.

b. United States Public Health Service Panel: George A. Kelly, Ann Magaret, R. Nevitt Sanford.

c. Army Advisory Committee on Psychological Problems: Jerome Bruner, Mitchell Dreese, John

W. Gardner, Carl I. Hovland, William E. Kappauf, Rensis Likert, Neal E. Miller, Marion W. Richardson, Carroll L. Shartle, Dael Wolfe.

COUNCIL OF REPRESENTATIVES

1. It was voted that it be arranged to have the Council meet Wednesday night and Thursday morning at the September meeting, with preliminary voting on committee membership the first evening and final voting the next morning. This was done in order that there be time to continue voting until some candidate receives a majority.

2. It was voted that the number of representatives to the Council allowed each division be changed in accordance with the new statement of membership.

3. It was voted that the problem of providing alternates for members of the Council who cannot attend the annual meeting be presented to the Council for discussion in September and that in the meantime the Executive Secretary inform Division Officers that no alternates will be allowed at the 1948 meeting.

STATE SOCIETIES

1. It was voted that the Board recommend to the Council that \$1000 be allocated for travel of a consultant in the Central Office who will assist State Associations with problems of certification.

2. The Indiana Association of Clinical and Applied Psychologists has proposed that the Conference of State Psychological Associations be authorized to elect one member of the Board of Directors to serve a three-year term. It was voted that the State Societies be informed that the Board has given their proposal careful consideration; that it believes the Board of Directors to be an executive rather than a representative body, a fact which renders the present proposal inappropriate; but that the Board is prepared to entertain other proposals. It was further voted that the Executive Secretary outline for the State Societies the alternative courses of action available for accomplishing their purposes, such as proposing an amendment to the By-Laws which will increase the number of Representatives in Council from the Conference of State Psychological Associations or referral of some proposal to the Policy and Planning Board for consideration in 1950.

PROPOSED AMENDMENTS

1. It was voted to recommend that the following amendments be approved by the Council of Representatives for submission to the membership:

a. The third sentence of Article XV, Section 4, which now reads "A quorum shall consist of one fifth of its membership", shall be changed to read "A quorum shall consist of the official representatives of one third of the member associations".

b. Section 3 of Article IV shall be deleted.

c. In Article III, Section 3, the word "September" shall be changed to the phrase, "at the time and place of the annual convention".

Respectfully submitted,

Helen Peak, *Recording Secretary*

REPORT OF THE TREASURER FOR THE YEAR 1947

To the Council of Representatives:

The APA ended the year 1947 with a deficit of \$5,048.10. Increased membership and increased numbers of journal subscriptions produced an income about \$40,000 greater than the expected income for the year. But rapidly increasing prices, chiefly publication costs, required an annual expenditure of more than \$40,000 over the anticipated expense. The result was that 1947 was the first in many years in which the Association experienced an overall loss in its financial operations.

The accounts for 1947 were audited by Ernst and Ernst, Certified Public Accountants. The audited report is a detailed one which is not reproduced here. It has been examined by members of the Board of Directors. A summary of income and expense for 1947 is given below.

The assets of the Association exceeded its liabilities at the end of 1947 by \$80,172.53. This is a decrease in the net worth of the APA of \$4,250.25. In addition, the Association held \$10,898.39 in reserve for special purposes. Of this amount, \$5,000 was in the "Building Fund" and \$5,898.39 in the reserve of the *Journal of Abnormal and Social Psychology*.

During the year, the APA received a special grant of \$7,500 for the purpose of bringing foreign psychologists to this country to attend psychological meetings and visit American universities and research laboratories. This account is not included in the regular operating budget of the Association summarized below. Money remaining in it reverted to the donor on June 30, 1948. Another expense figure not shown in the report below is that of the Committee on Training in Clinical Psychology. Their 1947 expenses of \$1,268.37 were reimbursed

on January 1, 1948, when a United States Public Health Service grant of \$7,500 was made available to the Committee.

A special fund of \$3,327.83, representing the original surplus and interest from the Ninth International Congress of Psychology at New Haven in 1929, was given to the Twelfth International Congress to help pay travelling expenses of members coming from countries outside the United States and Great Britain.

In order to prevent a deficit in 1948, the Council of Representatives, at its 1947 annual meeting, increased dues and club-subscription rates for 1948. The expenses of printing the Association's journals are steadily increasing, but income and expense figures for the first half of 1948 indicate that the year will probably end with a surplus of income over expense.

Respectfully submitted,

Carroll L. Shartle, *Treasurer*

AMERICAN PSYCHOLOGICAL ASSOCIATION, INC.

Statement of Income and Expense

1947

Income

<i>Dues</i>		\$60,918.39
Fellows.....	\$11,529.89	
Associates	14,152.55	
Student Affiliates	1,006.47	
Other Affiliates	30.50	
For Divisions	4,900.12	
For Journals Included with Membership	29,298.86	
<i>Subscriptions</i>		54,610.75
APA Clubs	15,845.85	
Supplementary:	38,764.90	
Abnormal	\$4,786.02	
Abstracts	7,121.84	
American Psychologist	1,814.09	
Applied	6,492.99	
Bulletin	4,817.48	
Comparative	2,221.32	
Consulting	1,440.05	
Experimental	4,086.80	
Monographs	1,731.42	
Review	4,252.89	
<i>From Authors for Printing Costs, Reprints, & Prior Publications</i>		7,277.63
<i>Sales of Single & Back Copies of Journals</i>		14,061.96
<i>Income from Advertisements</i>		3,562.00
<i>Income from Investments</i>		2,375.01
<i>Miscellaneous Income</i>		3,667.08
TOTAL INCOME		\$146,473.82

<i>Expense</i>		
<i>Printing Costs</i>		\$70,940.83
Abnormal.....	\$6,474.58	
Abstracts.....	13,555.10	
American Psychologist.....	12,779.08	
Applied.....	5,621.33	
Bulletin.....	6,544.69	
Comparative.....	5,119.03	
Consulting.....	3,707.93	
Experimental.....	5,103.28	
Monographs.....	4,640.33	
Review.....	4,652.09	
Yearbook (1946-47).....	2,743.39	
<i>Reprint Costs</i>		4,870.19
<i>Allowance to Officers & Editors</i>		3,750.00
<i>Abstracts Editorial Office Expense</i>		6,991.41
To Abstractors & Translators....	330.43	
Compensation to Employees....	5,789.42	
Office Expense.....	871.56	
<i>Central Office Expense</i>		47,999.04
Compensation to Employees....	29,953.70	
Supplies & Equipment.....	12,616.94	
Rent.....	1,984.94	
Executive Secretary Travel.....	916.95	
Miscellaneous.....	2,526.51	
<i>Building Fund</i>		5,000.00
<i>Payments to Divisions</i>		2,585.53
<i>Annual Audit</i>		332.04
<i>Annual Meeting Expense</i>		434.90
<i>Memberships</i>		1,635.00
Office of Scientific Personnel....	1,250.00	
Inter-Society Color Council.....	25.00	
American Council on Education....	10.00	
National Council on Rehabilitation.....	50.00	
Inter-Society Committee of the National Science Foundation....	300.00	
<i>Committee Expense</i>		\$3,176.60
Program.....	\$307.06	
Policy and Planning Board.....	660.74	
Clinical.....	28.04	
Graduate & Professional Training.....	843.94	
Conference of State Psychological Associations.....	100.00	
Travel, Board of Directors (March Meeting).....	723.17	
Travel, Board of Editors.....	437.97	
<i>Miscellaneous Expense</i>		3,882.06
TOTAL EXPENSE		\$151,521.92
NET LOSS		\$5,048.10

REPORT OF THE BOARD OF EDITORS

To the Council of Representatives:

The Board of Editors held its annual spring meeting on April 10, 1948, in New York, with all editors present. The report of the Executive Secretary on

the financial condition of the journals was read and approved, as were also the reports of each of the editors for his journal. Among others, the following actions were taken:

1. It was unanimously approved that the secretary of the meeting write letters to Professors Dashiell and Langfeld, the outgoing editors of *Psychological Monographs* and the *Psychological Review*, respectively, expressing the appreciation of the Board for their long, devoted, and successful service to these journals.

2. Since the Anderson and Valentine article on preparation of manuscripts is now unavailable in reprint form, and out of date, it was approved that Louttit and Mrs. Wolffe prepare a new article on this subject.

3. After extensive discussion of the excessive publication lag now existing in some of the journals, it was unanimously approved to refer the long-term problem of publication space to the Committee on Publications for consideration. As a palliative measure, it was unanimously agreed to recommend that increases in the 1948 volumes of several journals be permitted as follows: *J. abnorm. soc. Psychol.*, 64 pages; *J. consult. Psychol.*, 64 pages; *J. exp. Psychol.*, 100 pages; *Psychol. Monogr.*, to a total of not more than 600 pages. The *Psychol. Bull.* was reduced to 560 pages. These increases were regarded as not binding upon the editor, and as applying only in 1948.

Respectfully submitted,

Gordon W. Allport
Herbert S. Conrad
Lyle H. Lanier
C. M. Louttit
Donald G. Paterson
Carroll C. Pratt
Laurance F. Shaffer
Calvin P. Stone
Dael Wolffe
Francis W. Irwin, *Chairman*

REPORT OF THE CONFERENCE OF STATE PSYCHOLOGICAL ASSOCIATIONS

To the Council of Representatives:

The Conference of State Psychological Associations held meetings in Detroit on September 10 and 11, 1947, with 20 of the 21 members of the Conference present and all 14 of the affiliated societies represented. The primary business of the annual

meeting of the Conference was organization, including preparation and adoption of by-laws, and planning.

ORGANIZATION

At its 1947 annual meeting, the Conference recommended an amendment to the American Psychological Association By-Laws to change the quorum requirement from one-fifth of its membership to official representatives of one-third of the member associations. This proposal is a desirable one because some of the societies, such as New York, with nearly 1000 APA members in that state, could conceivably have enough Conference members to constitute in themselves a quorum under the present APA By-Law requirements.

LEGAL CERTIFICATION OF PSYCHOLOGISTS

The Conference's chief concern, aside from organizational problems, has been that of legal certification and licensure of psychologists within the various states. The Conference believes that one of its primary functions in its relationship to American psychologists, to state organizations, and to the American Psychological Association lies in this area. This is the case, inasmuch as problems of legal certification and licensure have to be met at the state level of government. Strong state organizations are needed in each state of the Union in order to cope with these problems. They are needed not only for the positive purpose of developing appropriate legislation to protect the public; they are also needed to serve as watch-dogs over possible legislation, adverse to the profession of psychology, that is likely to spring up from time to time in state legislatures. Cooperation and liaison with the medical profession need to be developed at the state level, lest clinical psychologists become a service group, subordinate to the medical practitioner. The experience of psychologists in several states has already emphasized the importance of (1) strong state psychological associations, (2) the need for unity among psychologists with respect to their aims and procedures for legal certification or licensure, and (3) quickly available resources to meet the demand from non-psychologists (especially legislators and the medical profession) for legislation to protect the public from quacks and charlatans.

The Committee on Certification and Licensure held a special meeting in Washington on July 16 to draft legislation for the legal certification of

psychologists. This work of the Committee has been in anticipation of the APA membership's vote, by a ratio of 2 to 1, in favor of "recommending to the Conference of State Psychological Associations that it draft model legislation setting the requirements for certification at the level of the PhD plus one year of experience".

Plans for the legal certification of psychologists are under consideration in a number of states, including California, Colorado, Delaware, Georgia, Illinois, Kansas, Massachusetts, Minnesota, Missouri, New York, North Carolina, and Pennsylvania. During the past year, legislation providing for the certification of psychologists was adopted by the Legislature of the State of Kentucky. Certification laws are also in effect in Connecticut and Virginia. Proposals for the legal licensing of psychologists are under consideration in Indiana and New Jersey.

The Executive Committee of the Conference, at its interim meeting in Washington, D. C., March 6, 1948, adopted the following resolution:

"Because of the increasing seriousness of the problems of licensure and certification in various states, this Committee strongly urges the Board of Directors and the Policy and Planning Board of the APA to give serious consideration to the appointment of a properly qualified person to be directly responsible to the Executive Secretary of the APA and to the Executive Committee of this Conference, said person's primary duties to be the continuous accumulation and dissemination of all relevant information on the problems of certification and licensing, to aid in the formation of new state organizations, and to aid existing state organizations in the problems of certification and licensing."

In April 1948, Dr. Karl Heiser was appointed on a part-time basis by the Board of Directors of the APA as its expert on accreditation and licensing problems, and to be available to help state societies on legislative matters.

ORGANIZATION OF NEW STATE SOCIETIES

The organization of new state societies, their affiliation with the APA, and their participation, through representatives, in the work of the Conference has also been a chief concern of the Conference during the past year. The Committee on the Organization of New State Societies prepared an article with suggestions on the formation of new state societies. It was published in the March 1948 issue of the *American Psychologist*.

The Board of Directors of the APA during the

past year has circulated to the Officers of the Conference all requests for affiliation received from new state societies. The material accompanying these requests for affiliation was examined by three members of the Executive Committee of the Conference and returned to the Executive Secretary of the APA with recommendations made in relation to the APA by-law requirements for affiliation. If the Council of Representatives approves these requests for affiliation at the Boston meeting in September, there will then be 21 states of the Union represented on the Conference, as well as Washington, D. C. and the Province of Quebec. Requests for affiliation are expected from additional organizations, including California, Iowa and Rhode Island, so that within another year more than half of the states of the Union should be represented in the Conference.

At the present time the 13 affiliated organizations represent states which have 3100 members of the APA or 62% of the total APA membership. With the expected affiliation of nine additional state organizations in September, the Conference of State Psychological Associations will represent states with 3770 APA members or 75% of the total membership of the APA. It should be apparent that the Regional Representatives to the APA are increasingly unnecessary. The Conference went on record at its 1947 meeting to support the proposal to abolish Regional Representation.

POLICY AND PLANNING

The Policy and Planning Committee of the Conference made several recommendations which were acted upon by the Executive Committee at its interim meeting in March.

The Executive Committee unanimously approved a proposal that the by-laws of the APA be amended so that a representative from the Conference, elected for three-year terms, might serve on the Board of Directors of the APA. This was a carefully considered recommendation, motivated principally by the Committee's belief that the Board of Directors of the APA should have a member who is directly and continuously in touch with the problems of the state societies, particularly legal certification and licensure.

The Executive Committee unanimously approved a recommendation to the Board of Directors of the APA that provision in Article XX of the APA by-laws, which provides for annual subscriptions by State Affiliates, be interpreted as permissive rather

than mandatory. The Executive Committee also approved a proposed amendment to the APA by-laws which would explicitly place subscriptions of State Affiliates on a permissive rather than a mandatory basis.

PUBLICATION OF NEWS

The Conference recognizes the urgent need for a medium of news dissemination about its own work as well as about the activities of each affiliated society. A Special Committee was established at the 1947 annual meeting for the purpose of exploring this problem and making a recommendation to the Conference at its 1948 annual meeting. The Conference needs funds, not only for its activities as outlined in this report, but also to permit the publication from time to time, possibly in the American psychologist, of pertinent news on certification and licensure and other problems of state societies.

FINANCES

Consideration has been given to the financial problems of the Conference. During the past year it has operated on a budget of \$650 received from the Board of Directors of the APA. The Conference is indeed grateful for this support. The Board of Directors of the APA has recommended, however, that the Conference hereafter raise part of its own budget. To this end the Executive Committee of the Conference has proposed an assessment of 50¢ per year, to be collected by the affiliated state societies from each of their voting members and paid to the Conference annually.

Final action on this proposal is, of course, up to the affiliated societies, all of which are expected to reply by the time of the annual meeting in September, 1948. To date more than half have replied favorably; only one has signified disapproval.

Respectfully submitted,

John Gray Peatman, *Chairman*

REPORT OF THE COMMITTEE ON COMMITTEES

To the Council of Representatives:

In order to prepare suggestions for committee posts, this Committee circulated a questionnaire to all divisional presidents and secretaries, asking for names of persons capable of performing on various APA committees, and especially for names of promising younger persons. Returns from approximately half these officers were received. The Committee then balloted within itself to determine the final

recommendations to the Board of Directors. The resulting recommendations contained few new names, and failed to represent the non-academic membership appropriately. The Committee felt that a more vigorous correspondence with persons who would make suggestions for the good of the Association would probably have increased considerably the range of suggested names. Therefore, in submitting its suggestions for the March meeting of the Board of Directors, it recommended that the correspondence function be re-assigned to, e.g., the Executive Secretary's office, the suggestions thus secured to be considered finally by the Board. This recommendation was accepted.

Largely through its chairman, the Committee corresponded with persons interested in creating or appointing committees. Since the proposed committees were largely at the Divisional level, and since committee functions, as well as Divisional ones, are still in process of formulation, the Committee on Committees attempted only to inform itself rather than to influence the proposed committee activities. The present group believes that future Committees on Committees should further develop methods for discovering what committees there are, in order that any possible duplication of effort may be made known.

The suggestion that the Committee on Committees should be one of the agencies to consider the formation of new committees does not seem desirable to the present group. It is felt that the Policy and Planning Board, the Board of Directors, and the Council, being in more direct touch with the affairs of the Association, are in a more appropriate position to initiate such considerations.

The committee believes that henceforth, as a matter of policy, its membership should be made as representative as possible of all interests in the Association, thus to increase the Committee's understanding of committee functions in all Divisions.

Respectfully submitted,

John G. Darley
J. P. Guilford
Edna Heidbreder
Robert H. Seashore
Claude E. Buxton, *Chairman*

REPORT OF THE FINANCE COMMITTEE

To the Council of Representatives:

During the year, the Finance Committee has given informal counsel regarding APA accounting pro-

cedures and has reviewed the financial structure and investment policy of the Association.

The invested funds of the Association amount to (1) \$27,681.40 distributed in ten savings accounts and (2) \$77,802.50 in bonds. This total of \$105,483.90 earned \$2,376.01 interest in 1947.

The Committee recommends that not more than \$25,000 be withdrawn from savings accounts to purchase Government bonds Series G, but that no amounts be withdrawn from checking accounts for permanent investments until 1949, since interest on inactive portions in the checking accounts offset service charges for deposit and withdrawal items.

At present, the Executive Secretary is the only employee of the APA who is bonded. The Committee recommends that the entire staff of the Association be bonded.

Respectfully submitted,

Marion Bills
Steuart H. Britt
Leonard Carmichael
Samuel W. Fernberger
Carroll L. Shartle, *Chairman*

REPORT OF THE COMMITTEE ON SCIENTIFIC AND PROFESSIONAL ETHICS

To the Council of Representatives:

During the year the Committee has received approximately fifteen complaints concerning allegedly unprofessional conduct. A third of these dealt with non-members of the Association and thus fall outside the jurisdiction of the Committee. In some of these cases the complainant was referred to a local Better Business Bureau. One of our members, Leo F. Smith of the Rochester Institute of Technology who has contacts with the National Better Business Bureau, is interested in furthering the cooperation between the APA Committee and this organization. Such cooperation should gradually be developed.

A third of the complaints dealt with the thorny problem of advertising. Although no code of practice is yet available to guide consulting and clinical psychologists in this matter, the Committee has reproved two members whose announcements seemed obviously to overstep reasonable bounds. The Committee has likewise gone on record (in consultation with the American Board of Examiners in Professional Psychology Inc.) against such professional advertising as announces a practitioner's APA membership in a manner that might imply en-

dorsement of his services. We feel that the Diploma in Psychology, or in some cases a state licentiate, are the appropriate forms of certification. A letter from the Chairman of the Committee, published in the *American Psychologist*, explains this policy to the membership at large.

A few of the remaining complaints have been filed because of insufficient evidence. One will probably be brought before the Board of Directors and Council at the 1948 Annual Meeting for action.

As in the previous year the Committee has found itself handicapped in interpreting standards of scientific and professional ethics by the lack of any agreed code of practice. It has therefore advocated strongly an *ad hoc* committee to work toward the devising of a code. Such a Committee was appointed by the Directors in 1947 and during the past year has been reorganized. Our Committee has turned over to this group a considerable amount of material relevant to the formulation of a code.

The Committee has also cooperated in various ways with the Board of Examiners. For example, it has become customary for this Board to clear its lists of diplomates with the Committee before taking final favorable action on its applicants for the Diploma.

RECOMMENDATIONS

1. That the Board of Directors appoint in consultation with the officers of the Division of Industrial and Business Psychology and other relevant Divisions a special committee to work out a code of practice for the distribution of psychological tests and diagnostic aids. (This recommendation is identical with one submitted to the Board by the Conference of State Psychological Associations.)

2. That the membership of the present standing Committee be provided for as prescribed by the By-laws, including the rotation of chairmanship.

Respectfully submitted,

Edgar A. Doll

Horace B. English

Edwin E. Ghiselli

Gilbert J. Rich

Gordon W. Allport, *Chairman*

REPORT OF THE ELECTION COMMITTEE

To the Council of Representatives:

During the year the Election Committee has served in an advisory and supervisory capacity, the

actual work of the elections being carried on in the office of the Executive Secretary.

As a measure of Association interest, there were 1467 nominating ballots received for the office of President-elect, as compared with 547 in 1946. Although the nominations were thus made by approximately one fourth of the membership, the sharp increase in number appears to be a healthy sign.

One question arose regarding the interpretation of the By-laws. In regard to Division Representatives to the Council, the By-laws state (Article IV, 1): "Renomination shall not be permitted after three years on the Council without at least one year intervening." The question arose as to how this applied to a person who has served three years but is now nominated by a new division or group. The Elections Committee was itself divided on the interpretation of this point, but the majority vote favored this interpretation—that a Representative cannot serve more than three years as representative of one group or constituency, but he may be nominated for service beyond the three-year limit, if a new Division or constituency desires to nominate him.

This point should either be turned over to a committee considering amendments to the By-laws, or should be considered and given a definite interpretation by the Council.

The Committee reports the following elected to the offices named.

President-elect, 1948-49—J. P. Guilford

Regional Representative, Region III—E. Lowell Kelly

Regional Representative, Region VI—Hugh C. Blodgett

Regional Representative, Region IX—C. Roger Myers

Respectfully submitted,

Edwin R. Guthrie

Henry E. Garrett

Carl R. Rogers, *Chairman*

REPORT OF THE COMMITTEE ON STUDENT AFFILIATES

To the Council of Representatives:

During the past year the Committee on Student Affiliates has concerned itself with four major areas: promotion of student interest in affiliateship, interpreting admission requirements in special situations, developing means of communication and

services for student affiliates, and determining the length of term of the student members of the Committee.

1. Since its inception three years ago, the category of student affiliateship has shown rapid growth until there are now about 1500 student affiliates. However, in order to be sure that this opportunity was called to the attention of interested students, the Committee, in January of 1948, wrote to chairmen of psychology departments asking their cooperation in calling students' attention to the possibility of student affiliateship. In addition to this letter, various members of the Committee have personally acted at their own and other institutions to develop interest in this form of affiliateship.

2. Because it has been difficult at this early stage to define the requirements for Student Affiliateship precisely (a tentative statement was given in last year's committee report), the Committee has had this year to decide on the acceptability of several applications. The committee feels, however, that its rulings have had to deal with quite clear cut situations and have been within the purpose of Affiliateship.

3. The Committee has devoted most of its energies to developing means of communication among student affiliates and between them and the APA so that their professional growth may be fostered and so that the APA may more effectively serve their needs. To carry out these purposes, informal discussion sessions have been held at the Eastern and the Midwestern Psychological Association meetings and a similar gathering is planned for the annual APA meeting. Needs and interests expressed by the students at these meetings have been given later consideration by the Committee. One such suggestion made by several student affiliates last year was put into action this year with the initiation of a *Student Affiliate Page* in the March issue of the *American Psychologist*. This means of communication should help student affiliates, but its effectiveness must, of course, be dependent on the extent to which the students themselves contribute to the venture. That is, the Committee feels that its functions consist of providing channels of communication and helping with activities the students are interested in, but not in promoting activities for student affiliates.

Because several student affiliates suggested that a listing of theses by author and title in the *Psychological Abstracts* would permit research workers to

learn about research more quickly than if they had to wait for publication in journals, arrangements are now being made with the Editor of the *Psychological Abstracts* to provide this service.

4. Each APA member of the Committee has been appointing a student affiliate to serve as a member on the Committee, but the term of their office has never been stated. The Committee this year agreed that the term of a student affiliate should coincide with that of his sponsor unless the affiliate changes to associate membership in the APA during the sponsor's term.

Respectfully submitted,

Walter C. Shipley

Robert L. Thorndike

Robert C. Tryon

Beth Wellman

Robert E. Dixon (student member)

Caroline J. Franke (student member)

Margaret Shuttleworth (student member)

Frank J. Vanasek (student member)

Francis P. Robinson, *Chairman*

REPORT OF THE COMMITTEE ON PUBLIC RELATIONS

To the Council of Representatives:

The Committee on Public Relations has been in existence three years and is now for the third time making certain proposals. Last year its extensive recommendations were referred to the Policy and Planning Board. After consideration of them, the Board (in the report in the June issue of the *American Psychologist*) affirmed its belief in the importance of public relations and mentioned the contributions in this respect which may be made by university extension departments or other existing agencies, and the valuable contacts of the Executive Secretary with national organizations concerned with such matters.

With that affirmation, and the importance of such efforts locally and in Washington, the Committee is in agreement. But it believes that the whole subject needs far more adequate explication than has yet been made available to the Association, and that such study will show work to be done far beyond what can be expected of agencies already loaded with an abundance of other work.

The Committee believes that at this time, when the reconstituted Association is moving into its full post-war importance, there is especially needed a very broad and adequate review of the whole

problem of public relations, with consideration of policies in other fields and methods used by other professional organizations. And on the basis of such a review, possible longtime policies should be put before the Association, as bases for continuing planning. Such a task can be adequately undertaken only by a committee large enough to include representation of various groups in the Association concerned with these issues, and persons having special competency and understanding as regards the total subject. It seems clear that a small standing committee of three is hardly adequate for such a project. The Committee therefore recommends that for the coming year it be reconstituted and enlarged as above suggested, and assigned the task of thus making a special study of the whole problem with the aim that the result might serve as a basic document for orientation of the policy of the Association regarding this increasingly important issue.

Respectfully submitted,

Daniel Katz

Sidney L. Pressey, *Chairman*

REPORT OF THE PUBLICATIONS COMMITTEE

To the Council of Representatives:

The Committee on Publications met at 8:00 p.m., September 5, 1948 in the Headquarters Suite at the Hotel Statler in Boston.

(1) In connection with selecting a slate of nominees for editorship of the *Journal of Abnormal and Social Psychology* the Committee previously had solicited suggestions from the Board of Editors and from the Presidents and Presidents-elect of the Divisions of Personality and Social Psychology and Clinical and Abnormal Psychology. With these suggestions to draw upon and with other names chosen by the Committee itself the following slate was made up: Jerome S. Bruner, J. McV. Hunt, Carney Landis, and Joseph Zubin. The Committee nominated these candidates for the editorship of the journal in question.

(2) Members of the Association have requested that the Committee express its opinion as to the advisability of preparing a Directory of Foreign Psychologists. Recognizing the advantages of such a project, the Committee was nonetheless of the opinion that it should not be undertaken by the Association at this time.

(3) The possibility of publishing a revised and up-to-date Psychological Register was discussed

but in view of the expense involved the Committee felt that such action should not be recommended.

(4) In connection with a request from Drs. Goldstein and Scheerer for arbitration on the problem of additional royalty payments on their monograph, it was the consensus of the Committee that the Association should not arbitrate with the authors, but that if he deems it advisable the Executive Secretary should seek legal counsel to determine the possible liability on the part of the Association.

(5) In response to a request for advice from the Executive Secretary, the Committee expressed itself as opposed to the suggestion that special subscription rates for the Association's journals be extended to small libraries.

(6) It was recommended that editors of the Association's journals publish the dates of receipt of acceptable manuscripts.

(7) The following items of business also were discussed: (a) changes in subscription rates for all journals, (b) publication outlets for research which does not fall clearly within the present scope of any of the existing journals but does consist of psychologically important and scientifically acceptable material, and (c) acquisition of the *Journal of Educational Psychology*. It was the sense of the Committee that these and several related problems can only be considered in the light of the Association's long-range plans and objectives with respect to publication, a matter to which the Committee will address itself in the coming year.

Respectfully submitted,

Herbert S. Conrad

John F. Dashiell

Wayne Dennis

William A. Hunt

Francis W. Irwin

Frank A. Beach, *Chairman*

REPORT OF THE COMMITTEE ON PRECAUTIONS IN ANIMAL EXPERIMENTATION

To the Council of Representatives:

In any campaign of aggressive publicity waged against anti-vivisectionists psychologists are at a grave social disadvantage not shared by the medical profession. This profession is legally sanctioned in its attempt to prevent and alleviate human suffering. It is strongly organized and adequately financed publicly to attack anti-vivisectionist activities through the popular magazines and by

exercise of political influence. As psychologists, we can rely upon the protection and support of medical societies both local and national in carrying out our legitimate programs involving the use of animals.

The course of action I recommend to psychologists is an educational approach by indirection. For many years at our Cornell Behavior Farm we have welcomed annual visits by local and neighboring highschool science clubs and various similar groups. Our visitors, after a short informal talk, are shown how the recording apparatus works, are given a carefully prepared demonstration of conditioned reflexes in our farm animals, and are offered an opportunity to feed and play with the animals. Without exception, they go away with the desire to come again and encourage their friends to come. What may be more important is that they tell their parents what they have seen and done. They see the animals come willingly to the laboratory where we use electric shock in conditioning. Our visitors are encouraged to feel the shock themselves; in our experiments it is extremely mild.

I strongly recommend that each psychologist in a position to do so engage in this form of propaganda. The time spent in carefully planning such a show can accomplish more than any amount of debate with anti-vivisectionists.

If public action is to be taken by this committee I recommend that it take the form of attempting, on a national basis, a rapprochement between high school science clubs and college animal psychology laboratories.

Respectfully submitted,
Robert H. Bruce
W. D. Neff
H. S. Liddell, *Chairman*

REPORT OF THE AUDIO-VISUAL AIDS COMMITTEE—1947-1948

To the Council of Representatives:

The Audio-Visual Aids Committee of the Association has continued to perform activities similar to those performed during other post-war years. The Committee has sponsored generally the use of audio-visual aids in psychological and psychiatric instruction by advising and assisting interested persons on production, distribution and utilization problems in the area of audio-visual aids. Special efforts were made to stimulate initial explorations into the possibilities of employing the sound motion picture for the training of personnel in the fields of clinical

psychology and psychiatry. Also, attempts were made to interest responsible individuals and organizations in research on the potentialities of sound motion pictures as one supplementary means of individual and group psychological and psychiatric therapy. A subcommittee was organized to advance these and other interests with clinical psychologists. A survey of psychologists was completed in order to evaluate the extent of interests and needs for audio-visual aids in psychological instruction. The Committee continued active but semi-official sponsorship of the Psychological Cinema Register services. Responsibilities were assumed for film exhibits during annual meetings of the American Psychiatric Association and the American Psychological Association.

Recommendations:

1. That the Audio-Visual Aids Committee be continued with Arthur A. Lumsdaine as Chairman.
2. That the position of Editor, Psychological Cinema Register, be assigned a continuing membership on the AVA Committee in order to provide for coordinating the services of the Register with the functions of that committee and plans and policies of the Association.
3. That the new AVA committee be instructed to take cognizance of the special interests of several divisions of APA and, when feasible, to arrange for these divisions to be represented on the Committee.

Respectfully submitted,

Kenneth H. Baker
Stephen M. Corey
Elias Katz
J. J. Gibson
Mark A. May
Leonard Mead
A. A. Lumsdaine
C. R. Carpenter, *Chairman*

REPORT OF THE COMMITTEE ON GRADUATE AND PROFESSIONAL TRAINING

To the Council of Representatives:

During the past year this committee has been relatively inactive. The major previous activities of the committee has been assumed by the Committee on Training in Clinical Psychology. In the absence of any immediately pressing problems, it did not seem wise to arrange for a physical meeting of the committee. However, by correspondence and

an occasional conference of two or more members, a number of general problems were discussed. These included:

1. The place of the Master's degree in psychology.
2. The need for professional personnel trained in graduate programs not leading to the doctoral degree.
3. The possible desirability of accreditation of departments offering graduate programs in fields other than clinical.
4. Techniques for the selection of graduate students in fields other than clinical.
5. Methods of encouraging superior undergraduate students to consider graduate training in psychology earlier in their undergraduate program.

Your committee is not prepared to make specific recommendations concerning any of these problems at the present time, but believes that all of them need further study during the coming year. It is recommended that the committee be continued and that a small budget be appropriated for a survey of opinion concerning items 1 and 2 above.

Respectfully submitted,

John G. Darley
Elaine Kinder
Jean W. Macfarlane
Donald W. MacKinnon
Bruce V. Moore
M. W. Richardson
Robert R. Sears
Carroll L. Shartle
E. Lowell Kelly, *Chairman*

REPORT OF THE COMMITTEE ON STANDARDS FOR PSYCHOLOGICAL SERVICE CENTERS

To the Council of Representatives:

Following the 1947 Report of the Committee and the suggestion that the scope of its inquiry be enlarged, return postal cards were sent from the central office to the membership of the Association containing the following message:

- Kindly send me a copy of the questionnaire on Psychological Services since I am a Fellow—an Associate (cross out one) of the APA, and am
- Director of a Psychological Service Center
 - In charge of psychological services "clinical" or non-clinical (e.g., personnel) in a social agency, institution, industry, etc.
 - Practicing psychology independently as a member of a professional "team".

As of September 3, 1948, 1619 cards have been returned and requests received. 1600 questionnaires arrived from the Washington Office in March and April. In order to take care of the discrepancy by recovering some of the unused blanks, and to speed up the returns which continue to come in, a follow-up postal card was sent out August 1 to those from whom no replies had been received. As a result, it is expected that enough blank copies will be obtained to supply the demand and that more additional replies will be forthcoming.

Cards are now being punched and the sorting and tabulating will follow, but it is impossible to make any report of the results at this time. Since the information obtained was to be used as a basis for inclusion in the Directory, the Committee would appreciate any suggestions as to specific data that it believes would be of particular value in determining standards, that such information may be included in the final report.

A final report on the questionnaire, it is believed, should be ready by the end of the year. At that time there will still remain the problem of the criteria and means to be employed in making selections for inclusion in the Directory, e.g., whether the State Associations should be called upon, whether centers should be visited, and if so, by whom the visitations should be made.

If the report is to be completed by the end of the year, an additional \$550 will be needed to cover sorting, tabulating, and clerical assistance.

In behalf of the Association, the Committee wishes to thank those who have assisted in this study. The letters which accompanied some of the blanks were appreciated, and we regret that it was impossible to reply to each one personally.

Respectfully submitted,

Jerry W. Carter, Jr.
Bertha M. Luckey
Vernon Scheidt
C. Gilbert Wrenn
Robert A. Young
Wm. Clark Trow, *Chairman*

REPORT OF THE COMMITTEE ON RELATIONS OF PSYCHOLOGY TO PSYCHIATRY

To the Council of Representatives:

Early in the year, the work of the joint committee on Relation of Psychology to Psychiatry was interrupted by the death of James S. Plant, chairman of

the committee of the American Psychiatric Association. Dr. Plant's death was a serious loss to both professional groups.

At the meeting of the American Psychiatric Association in May, 1948, George Gardner of Boston was named as the new chairman of the psychiatric group. Arrangements for two meetings of the committee in the ensuing year are now being made, subject to the continuation of the Committee by this Association. It is anticipated that the first meeting will be held in early December.

The Committee wishes to recommend to the Board of Directors and the Council of the Association, that the Committee be continued for the next year with such changes in personnel as may be deemed desirable, and, too, that the sum of \$700 be made available for the work of this committee, particularly for traveling expenses.

Respectfully submitted,
 William A. Hunt
 Laurance F. Shaffer
 Frederick C. Thorne
 James G. Miller
 Carl R. Rogers
 Carlyle Jacobsen, *Chairman*

REPORT OF THE COMMITTEE ON INTERNATIONAL PLANNING IN PSYCHOLOGY

To the Council of Representatives:

During the summer of 1947 the principal activity of the Committee was getting foreign psychologists to the Detroit meeting of the American Psychological Association in September. Through the Committee, invitations went to about seventy foreign psychologists to attend the meeting. These invitations were very much appreciated, but few could come owing to the expense. A sum of money was obtained from the Rockefeller Foundation, and the expenses of four psychologists were paid to the meeting. They were James Drever, Jr. of Edinburgh, William Stephenson of Oxford, Mario Ponzio of Rome, and Mercedes Rodrigo of Bogota (formerly of Madrid). Besides these four, Jean Paulus of Liege, Stefan Bailey of Warsaw and Loh Seng Tsai of Hongkong came to the meeting without financial aid from us.

A special session was arranged for Wednesday evening of the 1947 meeting at which Drs. Drever, Rodrigo and Stephenson delivered addresses.

After the APA meeting, the foreigners visited various educational institutions throughout the country. On their return to their homeland they sent enthusiastic letters of appreciation for the opportunity to learn more about psychology in America.

Invitations were sent to several foreign psychologists to visit America in Spring, 1948. V. Coucheron-Jarl of Oslo, Norway, and Eino Kaila of Helsinki, Finland, accepted. Both men felt they had a profitable visit.

The Chairman continues to correspond with foreign psychologists in regard to assistance of all kinds and also in regard to the 1948 International Congress. A number of periodicals have been received from abroad and have been acknowledged with thanks.

Margaret Hall, Chairman of the Sub-committee on Latin-American Psychology of the NRC, has published an excellent list of American psychological journals with descriptions in Spanish. This list was sent to 300 people in Latin America who are working in psychology, psychiatry, education and related subjects. Miss Hall has also been very helpful in supplying names and addresses of Latin-American psychologists.

Efforts have been made to obtain funds to finance a few American psychologists to the International Congress at Edinburgh, but thus far without success. It was thought that UNESCO might help, but such assistance is not included in their present program. Financial assistance to scientists to attend foreign congresses is much needed and it is hoped that UNESCO can be persuaded to change its rules to include such aid.

The Chairman as Permanent Secretary of the International Congress of Psychology will introduce for discussion at the Edinburgh Congress a proposal to form an International Psychological Union.

A proposal has been sent to the Editorial Board of the American Psychological Association to publish a directory of foreign psychologists if funds for that purpose can be obtained.

The Chairman attended a meeting of the Division of International Relations of the National Research Council in Washington on June 14th. The principal subjects of discussion were the Fulbright Act, UNESCO, International Union, funds for foreign travel of scientists and means of obtaining scientific equipment for foreign scientists.

The Chairman will attend the Edinburgh and

Amsterdam Congresses and visit various European laboratories this summer.

The Committee recommends that it be continued.

Respectfully submitted,

Walter S. Hunter

Walter R. Miles

Robert M. Yerkes

Jerome S. Bruner

Herbert S. Langfeld, *Chairman*

REPORT OF THE COMMITTEE OF UNIVERSITY DEPARTMENT CHAIRMEN

To the Council of Representatives:

The committee met in the Ivory Room, Hotel Statler, Detroit, September 12, 1947. It heard and acted upon the recommendations of its three subcommittees.

First was the Subcommittee on Organization, G. R. Wendt, Chairman. The Subcommittee had conducted a careful survey of all University Department Chairmen to ascertain their views on the organization of the committee. The Subcommittee recommended, and the Committee voted, to broaden the Committee to include representatives of all departments which had granted the PhD and planned to continue. During the past year, a complete list of all such departments was compiled by the Secretary and all were invited to name representatives to the Committee. The list now stands at 63, of which 48 have designated representatives. The Subcommittee on Organization was discharged with thanks.

The second to report was the Subcommittee on Standards, R. A. Brotemarkle, Chairman. He presented the results of a survey of graduate departments' views on standards and accreditation of graduate schools. The consensus of the survey, recommended by the Subcommittee and adopted by the whole Committee, was that accreditation of schools should not be undertaken at this time, but that the Committee should bend its efforts to collecting information about current training and practices to be disseminated to the various departments for their mutual benefit and guidance. It was further recommended and voted that a Subcommittee was subsequently appointed after the Subcommittee on Standards was discharged with thanks.

A third report was made by the Subcommittee on Graduate Selection, R. H. Seashore, Chairman.

This committee made an extensive mimeographed report, based on a survey of graduate departments, giving the facts and figures of current selection practices in the departments. As a supplemental report, Lowell Kelly presented some preliminary findings from the research of the Veterans Administration on the selection of graduate students in clinical psychology. The report of the Subcommittee was accepted with thanks with instructions to continue work along the same lines.

At the close of the meeting, R. A. Brotemarkle was elected Chairman of the Committee for the year 1947-48, and C. T. Morgan was elected Secretary for the period of 1947-50. The two subcommittees at work during the past year have been: Subcommittee on Selection, C. I. Hovland, B. F. Skinner, Neil D. Warren, and R. H. Seashore, Chairman; and Subcommittee on Training, E. B. Newman, E. R. Hilgard, and Wayne Dennis, Chairman. These subcommittees will report at the annual meeting of the Committee in Boston, 1948.

Respectfully submitted,

R. A. Brotemarkle, *Chairman*

C. T. Morgan, *Secretary*

REPORT OF THE COMMITTEE ON TRAINING IN CLINICAL PSYCHOLOGY

The May 1948 report of the CTCP (*American Psychologist*, August 1948) dealt with the results of the 1948 accreditation of graduate department programs of training in clinical psychology. The present report will cover events since the last report, recommendations to the Board of Directors of the APA and a preliminary announcement of the Committee's plans for the 1949 accreditation program.

In addition to the 36 institutions accredited in 1948, the Committee listed seven universities as candidates for accreditation in 1949 and called them to the attention of the VA and the USPHS for consideration in the planning of their training programs and grants. Each of these seven institutions has been accepted provisionally by these two federal agencies and has received consideration for placement of VA trainees and training grants or stipends.

Under date of July 1, 1948, the Chief of the Mental Hygiene Division of the USPHS notified the APA that the Surgeon-General had approved a grant of \$12,000 to the APA to support the activities of the CTCP during the year ending June 30, 1949. The grant includes the sum of \$7,500 for

professional and other personal services, \$4,000 for travel and \$500 for miscellaneous expenses.

On the basis of this substantial support by the USPHS, and authorization by the Board of Directors of the APA, the Committee has been fortunate in obtaining the services of Karl F. Heiser as its Administrative Officer for the year beginning September 1, 1948.

In its 1948 report, the Policy and Planning Board of the APA suggested that the CTCP be formed as a "continuing committee . . . composed of nine members serving three-year terms." The Committee is in accord with this suggestion and recommends the approval and adoption of the following principles: (1) a permanent committee of the APA on training in clinical psychology is the best means of insuring the coordinated development of professional standards in clinical psychology and of university training programs to prepare psychologists to meet those standards; (2) the rotation of committee membership will insure flexibility and adaptability to new principles and techniques in a rapidly developing profession; and (3) a nine-member committee is desirable in that it provides for broader representation of points of view and experience in clinical education and practice.

To implement the above principles, the Committee recommends the approval of the following draft resolution:

1. The Council of Representatives of the APA establishes a permanent committee of the APA to be known as the Committee on Training in Clinical Psychology.

2. The Committee shall consist of nine members, each of whom is a fellow of APA.

3. At the September 1948 meeting of the APA, three new members of the CTCP shall be elected for three-year terms who, in addition to the present six members of the CTCP, will constitute the personnel of the new permanent committee. At the annual meeting of the APA each year thereafter, three new members shall be elected for three-year terms.

4. No member of the committee shall serve for more than two successive terms except after an intervening period of not less than three years following the second successive full term.

5. Not less than five members of the CTCP shall be Diplomates in clinical psychology of the ABEPP.

In preparation for the 1949 evaluation of clinical training programs, the Committee is now planning to proceed as follows:

1. In September, this report and a covering letter will be sent to each prospective institution, giving tentative plans of procedure.

2. The covering letter will request the submission by each institution of information on all pertinent changes in their programs and personnel since the time of preparation of the 1948 forms. Those institutions which have not filled out a set of these forms will be requested to do so.

3. In the covering letter will also be contained suggestions for possible visiting dates and the opinion of the university solicited as to the convenience of these dates.

4. Each institution will be visited by one member of the Committee and the Administrative Officer, Dr. Heiser. Visits will vary in length, depending upon local circumstances.

5. It is expected that the visitors' itinerary will be somewhat as follows, beginning at Washington, D. C. October 1st and going north to Boston. Those universities in this area will probably all be visited in October. Other universities in the northeast will be visited before Christmas. Probably beginning in the Chicago area, all other institutions in the west and south will be visited before March.

6. Those institutions that indicate that their programs are not yet in the stage of development at which approval is an immediate possibility will be visited after the above tour in connection with anticipated visits to field internship agencies.

Respectfully submitted,

Ernest R. Hilgard

E. Lowell Kelly

Bertha Luckey

R. Nevitt Sanford

Laurance F. Shaffer

David Shakow, *Chairman*

REPORT OF THE COMMITTEE ON ETHICAL STANDARDS FOR PSYCHOLOGY

To the Council of Representatives:

As a result of widespread favorable reaction within your Committee on Ethical Standards for Psychology, (as well as from others outside the Committee) to the Hobbs' *Memorandum on the Development of a Code of Ethical Standards for Psychology*, (*Amer. Psychologist*, March, 1948) the members of your committee herewith present their several resignations and ask that the committee be reconstituted so as to be more homogeneous as to geographical location.

In general, we are agreed:

1. That a research approach is far more desirable than an armchair one.

2. That the matter of the setting up of a proper code of ethics is of such importance that it seems obvious that a hurry up job should not be done but rather that the project should be thought of in terms of a two, or three, year program.

3. That at least in a secondary way, participation should be widespread among members of the APA.

4. That since such an adventure will involve considerable expense, foundation funds should probably be sought (e.g., U. S. Public Health).

Further, as possible ways for the further implementation of the above, we would suggest that the new committee members:

(1) Find one or more persons who would be willing to carry out the needed research.

(2) Consider the matter of financing and of seeking funds from foundations.

(3) Supervise and advise the researchers.

(4) Present fairly frequent progress reports in the *American Psychologist* inviting comment and criticism.

(5) Carry out some sort of polling procedure of samples of APA members on various specific issues as they arise.

(6) Finally, in two or three years' time, submit a final proposed code to the total APA membership for vote and decision.

Respectfully submitted,

John C. Flanagan

Edwin E. Ghiselli

Nicholas Hobbs

Helen Sargent

Lloyd N. Yepsen

Edward C. Tolman, *Chairman*

REPORT OF THE REPRESENTATIVE TO THE SOCIAL SCIENCE RESEARCH COUNCIL

To the Council of Representatives:

Pendleton Herring, formerly of the Carnegie Corporation, became President of SSRC on June 15, 1948. He succeeded Donald Young who became the General Director of the Russell Sage Foundation.

COMMITTEES AND PUBLICATIONS: The work of the Council is conducted primarily through committees with the assistance of persons from the central office

or appointed as needed from other sources. The results of the more extensive projects are printed in books or in a bulletin series. It will be possible here to comment only briefly on a few of the varied activities of the Council.

A manuscript entitled *Social Science: a Basic National Resource* has been prepared by Talcott Parsons at the request of the Committee on Federal Government and Research. It is directed to social scientists. Stuart Chase's volume *The Proper Study of Mankind*, published by Harper and Brothers, is aimed at a more general audience.

American Opinion on World Affairs in the Atomic Age by Leonard S. Cottrell and Sylvia Eberhart became available in 1948 through Princeton University Press. The book is based on a study conducted under the auspices of the former Committee on Social Aspects of Atomic Energy.

The Recruitment, Selection, and Training of Social Scientists by Elbridge Sibley of the central staff was published in June, 1948 as Bulletin 58. *Social Adjustment in Old Age: A Research Planning Report*, Bulletin 59, by Otto Pollak with the assistance of Glen Heathers, is in press.

Four volumes by the Committee on Analysis of Research Branch, Information and Education Division, Army Service Forces are in the final stages of revision for publication.

A new Committee on Family Research was created in April, 1948, with E. W. Burgess as chairman and Leonard Cottrell as supervisor of the project.

FELLOWSHIPS AND GRANTS-IN-AID: The Committee on Social Science Personnel appointed 42 new fellows during the year and made 14 extensions of previous awards. Three of the new awards were in the field of psychology. The Committee on Grants-in-Aid made 41 awards of which four were in the field of psychology.

PSYCHOLOGY AND THE SSRC: The APA was formally represented on the Council during 1947-48 by Carl I. Hovland, Willard C. Olson, and Robert R. Sears. However, the participation of psychologists is much wider. For example, A. T. Poffenberger, Director-at-Large, has a long history of productive relationships to SSRC and served as Chairman of the Board of Directors in 1948. Psychologists are involved in conferences, most research planning committees, and as agents in investigation and writing. For continuous and current information on the activities of the SSRC it is recommended that in-

interested members of the APA consult the publication *Items* in local libraries or ask to be placed on the mailing list for it.

Respectfully submitted,

Willard C. Olson

REPORT OF THE REPRESENTATIVE OF AMERICAN PSYCHOLOGICAL ASSOCIATION ON THE AMERICAN DOCUMENTATION INSTITUTE

To the Council of Representatives:

During the past year the American Documentation Institute has continued auxiliary publication and the supplying of microfilm and out-of-print journals.

Problems of reorganization have also been considered in detail, and there have been various meetings regarding the future of the organization.

It has become the American organization affiliated with the International Federation of Documentation.

One of the items for consideration has been the possibility that the ADI might be asked to conduct for the Rockefeller Foundation a program for the establishment of micro-film laboratories in foreign countries.

Respectfully submitted,

Steuart Henderson Britt

REPORT OF THE AMERICAN PSYCHOLOGICAL ASSOCIATION DELEGATION TO THE INTER-SOCIETY COLOR COUNCIL

To the Council of Representatives:

During the year 1947-48, the ISCC achieved notable progress with respect to its stated aims and purposes; and the details of all activities are available in the Minutes of the Seventeenth Annual Meeting and the various issues of the News Letter.

A few indications may be mentioned of the generally increasing appreciation of the importance of the psychological aspects of color. Numerous articles on color and color vision appeared in the psychological and other journals during the course of the year. Several psychologists are now serving on the American Standards Association Committee Z58, Standardization of Optics. The American Society for Testing Materials has formed a new committee,

under the chairmanship of M. Rea Paul, to deal especially with "appearance properties" of color, gloss and texture. All papers presented at the Annual Meeting of the ISCC were concerned either with aesthetic or behavioral applications of color. A symposium on Visual Science in Theory and Practice, under the chairmanship of Harry Helson, has been arranged for September in conjunction with the annual meeting of the APA.

Respectfully submitted,

Harry Helson (voting delegate)

M. J. Zigler (voting delegate)

N. R. Bartlett

H. R. Blackwell

Alphonse Chapanis

F. L. Dimmick

Elsie Murray

Louise L. Sloan

S. R. Wallace, Jr.

Sidney M. Newhall, *Chairman*

REPORT OF THE REPRESENTATIVE TO THE NATIONAL COUNCIL ON REHABILITATION

To the Council of Representatives:

During the last year the National Council on Rehabilitation's financial condition has improved and the officers are hopeful that arrangements can be made which will enable the Council to operate on a sound financial basis. Many of the members of the Council, including the APA, have increased their contribution to the Council. However, outside funds are being actively sought by the officers of the Council.

The Annual Meeting of the Council was held in New York City on May 6 and 7. About half of the meeting was devoted to professional matters (revising the constitution, electing officers, and appointing committees) and the other half to panel discussions of various phases of rehabilitation.

Several activities carried on throughout the year by the Council might be mentioned:

(a) Continuation of the work on the 800-page bibliography entitled "Rehabilitation of the Handicapped".

(b) Sponsorship of an award dinner honoring General Paul R. Hawley, Chief of Medical Services of Veterans Administration.

(c) Handling some 1700 requests from organizations and individuals for information about rehabilitation services.

(d) Formulation of an overlapping series of research projects, each individually financed and each using the Council's offices, staff, and facilities.

(e) Initiating the development of State Councils of Rehabilitation in several states, the State Councils to be affiliated with the National Council. The former will act as coordinating agencies of all rehabilitation work within each of the various states.

It is the opinion of your representative that the Council is serving a very useful purpose and he recommends that the American Psychological Association continue to lend the Council its support.

Your representative served on the Nominating Committee during the past year and was recently elected a member of the Executive Committee for a term of three years and a member of the Nominating Committee for a term of one year.

Respectfully submitted,

Louis Long

REPORT OF APA REPRESENTATIVES TO THE INTER-SOCIETY COMMITTEE FOR A NATIONAL SCIENCE FOUNDATION

To the Council of Representatives:

The Inter-Society Committee for a National Science Foundation continued its efforts to secure passage of a National Science Foundation until the 80th Congress adjourned. A satisfactory bill was drawn up on the basis of many conferences involving representatives of the legislative and executive branches of the government and scientific societies. The bill was introduced into both houses of Congress. It passed the Senate, but did not come to a vote in the House of Representatives.

The Inter-Society Committee held one meeting during the year, in Chicago on December 28, 1947. The minutes of that meeting were published in *Science*, March 5, 1948.

Respectfully submitted,

E. Lowell Kelly
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REPORT OF THE AMERICAN PSYCHOLOGICAL ASSOCIATION REPRESENTATIVE ON THE AMERICAN STANDARDS ASSOCIATION COMMITTEE Z58, STANDARDIZATION OF OPTICS

To the Council of Representatives:

The American Standards Association is a federation of about 100 national organizations and 2,000 company members. The ASA was organized in 1918 to aid governmental, industrial and technical groups in developing or perfecting their standards by committee methods. Each ASA committee aims to be a cross section of all groups having a substantial interest in the given subject-matter. Then when the committee reaches agreement regarding a proposed standard in that subject-matter, the ASA can approve it as an "American Standard". (A detailed account of the organization and work of the ASA is available on request as PR 27, 4th Edition, July 1, 1948.)

The organization meeting of the new ASA committee Z58, Standardization of Optics, took place November 14, 1947 at ASA Headquarters, 70 East 45 Street, New York 17, N. Y. Thirty-one representatives were present, including the undersigned. The principal activity of this meeting was a rather detailed consideration of a prepared outline indicating the proposed range of the committee work, and a discussion of the scope of ten suggested subcommittees. In general, the project comprehends "the formulation of terminology, definitions, standards, and specifications in the general field of optics; and the establishment of methods of testing, rating, and classifying the performance characteristics of materials and devices used in optics; including the methods for the specification and description of color and also including the psychophysics of vision". The subcommittees will naturally carry on most of the actual work of this new section Z58. Certain details regarding the personnel for subcommittees were taken up. The subcommittees of most interest to psychologists are one on Vision and another on Color Measurements. There will be another general meeting of Z58 when adequate reason arises.

Respectfully submitted,
Sidney M. Newhall, Representative
Henry A. Imus, Alternate

ANNUAL REPORT OF THE EXECUTIVE SECRETARY: 1948

DAEL WOLFLE

American Psychological Association

THE American Psychological Association has clearly reached the point where we must give serious consideration to the planning of our own future. Our opportunities and our responsibilities are developing too rapidly to permit us to do otherwise. The APA has had several recent reminders of its obligation to plan how best to meet the responsibilities that confront it. Dr. Gregg has suggested what he considers desirable lines of development. In his presidential address, Dr. Marquis outlined in some detail how we can organize our research efforts to accelerate progress in social psychology. The Council of Representatives has requested the Policy and Planning Board to prepare a comprehensive report on research policy which will serve as a guide for many individual research projects. The Council has also asked the Publications Committee to make a thorough review of the APA publications and to plan how they can best meet the needs of the next decade.

If we are to plan intelligently, we must know where we stand at present. I wish therefore to give an analysis of the APA in terms of the current interests, the employment, and the economic status of its 5800 members. Following this analysis, we will consider plans for the future.

The APA office has recently analyzed one-fifth of the biographies printed in the 1948 Directory. To supplement those data, in August we mailed a questionnaire to one-tenth of the members to secure up-to-date information on their earnings and employment. (The detailed results of these two surveys are summarized in the tables at the end of this report.) Here are some of the principal figures on the distribution of the APA members in terms of interest and type of employment and the average salaries earned by various classes of psychologists.

I suppose that the most interesting single item in the data is: How much do we earn? The answer can be given in either of two ways: annual salary from the principal position, or total income—the figure you have to report in making an income tax

return. The median salary of APA members is \$4850, but the average member supplements his basic salary with additional earnings of \$600 a year, so the median *total income* is \$5450.

About two-thirds of APA members are men. Their median salary is \$1400 a year greater than the median salary of women in psychology. Both sexes supplement their basic salaries, but the men somewhat more than the women. So the differential in total income is \$1900 a year. The median income for men is \$6100; for women, \$4200.

In terms of education, over half in the APA have the PhD degree. An additional third have an MA and a few have Doctor of Medicine, Doctor of Education, or other advanced degrees. Only three per cent do not have any graduate degree.

The median salary for those with a doctor's degree is \$1500 a year higher than that for members without it. Furthermore, the PhD's either receive larger fees for their supplementary services or engage in more such activities, for they have a median income \$2100 above the median income of those without the doctor's degree. The median income for those with the doctorate is \$6150; for those without it, \$4050.

It is now possible, for the first time since the end of the war, to present reasonably accurate estimates of the distribution of psychologists among the several major fields of interest. In making this analysis I have combined information from the Directory and the salary questionnaire studies and have divided the APA members into the following seven fields of interest, arranged according to size, with the largest given first.

1. Clinical psychologists, including those in remedial work, account for 30 per cent of the membership. This figure is based both upon the members' own reports and upon our analysis of positions and interests listed in the Directory. It means that 30 per cent of the members think of themselves as clinical psychologists and have employment which is in some way closely related to clinical practice or teaching.

2. Psychologists interested in advisement and guidance, including the school psychologists, constitute 17 per cent of the membership.

3. Experimental psychologists in the traditional sense, including the physiological and comparative group, also make up 17 per cent of the membership.

4. Personnel psychologists constitute 14 per cent of the APA.

5. Child and educational psychologists account for 10 per cent.

6. Social psychologists make up 5 per cent of the total.

7. Statisticians, the people who construct and analyze tests, and those whose major interest is in psychological measurement, are another 5 per cent of the APA.

Salaries do not depend very much upon field of specialization. In general, this equality is probably fortunate; fields are not chosen solely on economic grounds. The median salary of persons in the sample studied is between \$4500 and \$5000 a year in all fields except three. The three exceptions are personnel psychology, social psychology, and statistics and test construction. People in these fields receive median salaries of about \$5500 a year.

The breakdown just presented was in terms of fields of interest within psychology. The data may also be analyzed in terms of places of employment. Here I have excluded the students and others who do not have full time positions and have used five categories:

1. universities
2. federal government
3. state and city governments
4. private industry, hospitals, or other organizations
5. private practice

Half of all APA members are employed by colleges and universities, almost exactly half in fact. But only about 40 per cent teach psychology. The remaining 10 per cent teach other subjects, serve as counselors, or are administrators. The federal government, state and city governments, and private organizations each employ about 12 per cent. Two per cent are self-employed.

These five groups show substantial differences in income. The poorest paying positions, on the average, are in the state and city governments where the median salary for psychologists is \$4250 per year. Those employed by private organizations receive a median salary of \$4750. University employees have

a median of \$4800. Employees of the federal government receive a median of \$5500. All four groups supplement their salaries with outside earnings but the college teachers earn more in that way than any of the other groups. On the average, a college teacher earns \$750 a year in addition to his basic salary. Much of this amount is for summer school teaching.

It is interesting to compare the salaries of psychologists with those of people in related occupations. The median income of physicians, for example, is \$8740. That is \$2600 higher than the median total income of PhD's in psychology. Their median is \$6150. Psychologists employed by colleges and universities are, on the other hand, paid approximately 10 per cent more than the average faculty member.

Comparing present figures with those for earlier years shows large increases in both the size of the Association and the average income of its members. The federal government is largely responsible for both of these increases. Because of its specific actions affecting psychology, we must consider the role of the federal government as an important aspect of our current increases and of our future plans.

The outstanding practical accomplishments of many psychologists during the war years produced a large post-war demand for psychologists in many federal agencies. You are familiar with the programs of the Veterans Administration, the United States Public Health Service, and the Office of Naval Research for training psychologists and supporting research. In August the Air Forces and the Surgeon General's Office of the Army authorized new programs which will create enlarged psychological research activities within the services and make available additional funds to support research in the universities. There will be still more of these programs to announce in the future.

Related to these programs, and growing out of the same causes, is the fact that the influence of the American Psychological Association in shaping policies affecting psychologists has grown steadily during the past few years. A good many of you are the formally appointed advisors of the military services, the Veterans Administration, the Public Health Service, the State Department, the Civil Service Commission, or other agencies. Within the past year the APA has been asked to name panels of advisors to several of these agencies or has been officially consulted in the selection of such advisory

groups. By examination of my appointment calendar I find that since January 1 of this year I have met with representatives of some government agency on 51 different days, and that does not include the many calls APA has had from agencies seeking to employ psychologists.

Here is a specific example of how the APA is working with one branch of the government. In 1947 the Chief of Naval Operations arranged for a series of lectures on atomic energy to be given to a group of high ranking naval officers. The purpose was to acquaint a number of policy-making officers of the Navy with recent developments in a field of science considered to be of paramount importance to the Navy. This year the Chief of Naval Operations wished to have a second series of lectures on an important field of science. They invited the APA to arrange a course of 14 lectures on psychology. All 11 of the men who lectured in that series seemed to enjoy the experience, but those who had previously served in the Navy took special pleasure in telling the class, which consisted of 100 Admirals, Captains, and Commanders, how the Navy ought to be run.

There are also less serious illustrations of the fact that official Washington is increasingly aware of the APA. Even the post office pays us the subtle compliment of delivering mail to us which was addressed to other organizations. If I felt sufficiently egotistical I might develop a theory of postal drainage patterned after the old theories of neural drainage—a theory that more active postal routes drain messages away from less active ones. I suppose we reached the peak of mistaken scientific identity in this respect when the post office delivered to us a letter addressed simply: National Science Foundation, Washington, D. C.

All in all, a good many men in government agencies have come to realize that many of their problems are largely psychological in nature. They want psychological help and in order to get that help are offering us three things: more money for research than we have ever had before; opportunities to study some problems on a larger scale than we can arrange elsewhere; and opportunities to put the results of our research to work for the betterment of our country.

These are not merely offers. They are definite programs. Money is appropriated. Positions have been created. Those positions will be filled and the programs will go forward. The trends of government interest in psychological research and practice

are too strong to be stopped now. If we fail to supply the leadership that will make those programs successful, their failure will be considered our fault.

I would like, therefore, to recommend that more top-level psychologists enter government service. It is true that 12 per cent of our members are already federal employees, but nearly three-fourths of this 12 per cent work for the Veterans Administration. In contrast, the Army, Navy and Air Force employ a total of only 170 psychologists.

Many of you no doubt feel that accepting a position in Washington would require certain sacrifices on your part. May I point out that the university is so much preferred over government as a place of employment that the government is actively attempting to create better working conditions than it has offered in the past and is attempting to counteract its non-preferred position by offering higher salaries. At the universities, less professional frustration may be felt, but you go home to more conversation dealing with financial frustration. With the federal government, you exchange some professional frustration for a more liberal home budget and less financial frustration. So the sacrifices of taking a government position should not be over-emphasized.

But because some professional sacrifice is necessary, we all owe a great deal of gratitude to the psychologists who have continued to fight the battle of Washington. They are the people who have built up the VA program, who have made large research funds possible, and who have made administrators aware of what psychologists have accomplished. These people are doing an excellent job, but there are not enough of them.

I would like to see an additional two or three dozen of our ablest psychologists, and perhaps 50 to 100 professional assistants for them, accepting appointments in some of the positions waiting for them in the State Department, the Civil Service Commission, and the military services.

If you ask where the psychologists are to come from to fill these positions, the answer is that most of them will have to come from the colleges and universities. Since they employ 50 per cent of all psychologists, and 71 per cent of PhD men, they are the natural place to raid. But also, it is on the campuses that a good many psychologists will be found who are both well versed in research methods and who have had opportunity to demonstrate that they are competent administrators. The government needs

to borrow some of these men while their universities grant them leave of absence for a year or two.

The universities will ultimately benefit from the loan, for in exchange they will have better planned government programs to work with, they will have unprecedented research opportunities and financial support, and the cooperative relations established will create excellent opportunities for the training of graduate students.

The government programs already in existence and those which are not yet ready for announcement pretty well cover the whole of psychology. There are two fields, however, to which special attention should be given. They are the fields of psychological measurement and social psychology. These are the fields which now engage the smallest numbers of our members. Their importance far exceeds their present size. Funds and facilities are available for their expansion.

Psychological measurement needs special development because we need to make better use of our manpower. United States citizens are not accustomed to thinking of a continuing international situation of unease and tension. Whether that situation leads to active war or not, it requires more careful use of our manpower resources than we have ever shown in the past. A critical example is our need for the selection of talent.

For the past 50 years the country's needs for scientific and technical personnel have doubled every ten years. Our increasing population, and the increasing numbers of college graduates, have made it possible to train enough scientists and engineers to keep moderately well up with this increasing demand. But our ability to do so will not go on forever. We are coming fairly soon to the time when, with our present methods of selection and training, there will not be enough college students of the high level of intellectual ability required to meet all the demands for engineers and physicists, economists, psychologists, and all the other highly trained technical personnel of our increasingly complex industry and civilization.

As we approach the limits of our intellectual supply, it will be necessary to identify at earlier ages those young men and women who possess the talents for scientific and technical occupations. It will be necessary to provide them with better training than

we do now. It will be necessary to determine more exactly the peculiar abilities of each. For only if we do these things can we organize them into the research teams that will best utilize their various skills and allow them to extend their ability by using the assistance of a variety of technicians and subordinates. Many of the tasks of identifying these different kinds of ability, measuring the productivity of different kinds of training and organization, and making maximum use of a limited supply of high-level brains are problems of psychological measurement. Consequently I recommend special attention to the further development of this field of psychology. It can make an extremely important contribution to the future of all science and technology.

The other field in which I believe we should accelerate our progress is social psychology. The problems of social tensions that make for war, the techniques which might prevent war, the conduct of psychological warfare if war comes or the similar techniques which can help keep war from breaking out, the problems of industrial, racial, and social friction are all problems of social psychology. These are problems of top priority for our national welfare and for the welfare of the world. Yet only five per cent of the members of the APA consider social psychology to be their major interest.

In conclusion, let me explain why this year as well as last I have spoken in such an egotistical fashion about the growing importance of the APA. It is because I find that many of you are not thoroughly aware of how strong the trends are that are forcing important responsibilities on us. Perhaps I have not adequately conveyed to you the pressing demands for psychologists, for psychologists with brains, for psychologists who love apparatus, for psychologists who wish to conduct research on clinical problems, for psychologists in control of themselves, for psychologists who can administer programs involving members of other professions. Such psychologists are now and will continue to be in demand. Political and economic factors may alter the exact amounts of money available, the exact numbers of positions to be filled. But we are in a period of expanding professional opportunities and responsibilities and the trends are too strong to be suddenly reversed. We must recognize those trends and the responsibilities which they impose, as we plan now for the next few years.

EXPLANATION OF TABLES

These tables are based upon two samples of the APA membership:

1. A sample consisting of every fifth name in the *1948 Directory*. This sample should have had an *N* of 1009, but a few foreign members and a few biographies too incomplete to be used reduced the number to 994. In 131 of these cases, the entry consisted of name, address, and class of membership only, for in these cases the members had not returned their questionnaires giving additional information. There were, therefore, 863 usable biographies. In only one respect is this sample known to be slightly biased: the proportion of women among those who did not submit biographies was about 25 per cent greater than the chance expectation. Since this excess represents less than three per cent of the women in the sample, the 863 cases may be taken as fairly representative of the membership at the time the *Directory* was prepared.

2. A sample consisting of every tenth stencil in the APA file of addressograph stencils. These stencils are arranged by states, within states by cities, and within cities alphabetically. This sample, therefore, gave representation to each geographical region of the country in proportion to its total APA membership. There were 551 names in this sample. Returns were received from 416 persons (75 per cent of those sent questionnaires). Twenty-three contained no information or only partial information. The salary data are therefore based upon information from about 72 per cent of those polled. A number of comparisons were made between the returned salary questionnaires and the *1948 Directory* sample (for example the proportion of each sex in the two samples). In all respects but one the two samples agreed fairly closely: the percentage of men holding the PhD in the *Directory* sample was 62; the percentage in the questionnaire sample was 72. Nevertheless, the salary data may be biased by a tendency for the less successful members in any category

(clinical psychologists, women PhD's, men Associates, etc.) not to return their questionnaires.

No correction has been made in any of the tables for possible sampling biases.

The total population sampled in the two studies was not identical. One sample was based upon the membership as of January 1, 1948 with the information about those members collected in the summer of 1947 and corrected in the fall of 1947. The other sample was based upon the membership as of August, 1948. In the intervening months nearly 800 new Associates had been elected and some of the members of the earlier sample had changed positions or had received advanced degrees which they did not hold at the time of submitting their biographical sketches for the *Directory*.

Table 1 is based upon the *Directory* sample. The first row and the last two rows of this table are based upon the entire sample of 994 cases. The second and third rows are based upon the 863 cases who submitted biographies. The percentages of the total APA membership who are Fellows and Associates represent a count of the entire *1948 Directory*.

Table 4 is based upon the 863 cases in the *Directory* sample.

Tables 2, 3, 5, and 6 are based upon the salary questionnaire. Median salary and total income figures are always given to the nearest \$50.

TABLE 1
*Composition of the APA by sex, education,
and membership status*

	WOMEN	MEN	TOTAL APA MEMBER- SHIP
Percentage of APA members	32%	68%	100%
Per cent who have PhD's	46%	62%	57%
Per cent who do not have PhD's	54%	38%	43%
Per cent who are Fellows	18%	31%	25%
Per cent who are Associates	82%	69%	75%

TABLE 2
1948 salaries of APA members, by sex and degree status

1948 SALARY	PHD'S			NON-PHD'S			TOTALS		
	Women	Men	Total Ph.D's	Women	Men	Total Non-PhD's	Women	Men	Both
000- 999	1 (1)	0	1 (1)	12 (11)	4 (4)	16 (15)	13 (12)	4 (4)	17 (16)
1000- 1999	1	3	4	1	3	4	2	6	8
2000- 2999	2 (1)	4	6 (1)	10	7	17	12 (1)	11	23 (1)
3000- 3999	14	16	30	25	17	42	39	33	72
4000- 4999	21	45	66	13	16	29	34	61	95
5000- 5999	13	47	60	5	14	19	18	61	79
6000- 6999	2	36	38	0	6	6	2	42	44
7000- 7999	1	21	22	1	4	5	2	25	27
8000- 8999	1	7	8		2	2	1	9	10
9000- 9999	0	5	5		0	0	0	5	5
10000-10999	1	3	4		0	0	1	3	4
11000-11999		4	4		0	0		4	4
12000 and Up		7	7		2	2		9	9
N.....	57	198	255	67	75	142	124	273	397
Median.....	\$4500	\$5650	\$5350	\$3400	\$4400	\$3800	\$3900	\$5350	\$4850

Excluding students, unemployed, and part-time employees (figures shown in parentheses above) gives:

N.....	55	198	253	56	71	127	111	269	380
Median.....	\$4550	\$5650	\$5350	\$3650	\$4550	\$4000	\$4100	\$5400	\$4900

Median gross incomes in 1948 are:

Median ¹			\$6150			\$4050	\$4200	\$6100	\$5450
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¹ Distribution not shown.

TABLE 3
1948 salary figures for members of APA categorized by areas of specialization

SALARY	CLINICAL	ADVISEMENT AND GUIDANCE	EXPERIMENTAL	PERSONNEL	CHILD AND EDUC.	SOCIAL	STATISTICS AND TESTS
000- 999					1		
1000- 1999	4	2	3	1	0	1	2
2000- 2999	13	1	6	1	2	2	1
3000- 3999	26	13	8	11	10	4	2
4000- 4999	33	14	18	14	12	1	1
5000- 5999	20	17	9	15	10	3	4
6000- 6999	12	2	8	13	3	2	2
7000- 7999	4	2	5	6	3	3	4
8000- 8999	2	0	0	5	1	1	0
9000- 9999	1	0	1	0	1	0	0
10000-10999	2	1	1	0		0	1
11000-11999	0			1		2	
12000 and Up	2			5			
N ¹	119	52	59	72	43	19	17
Median	\$4500	\$4700	\$4700	\$5600	\$4700	\$5500	\$5600
Median ² Gross Income	\$5000	\$5000	\$5300	\$6500	\$5250	\$6650	\$6500

¹ Minor discrepancies in N's are due to the incompleteness of some questionnaires.

² Distribution not shown.

TABLE 4
Fields of employment of psychologists

EMPLOYMENT	WOMEN				MEN				TOTAL	
	PhD		Non-PhD		PhD		Non-PhD		N	%
	N	%	N	%	N	%	N	%		
ACADEMIC	46	37.7	23	16.1	229	61.6	52	23.0	350	40.6
Teaching Psychology	4	3.3	1	.7	19	5.1	2	.9	26	3.0
Teaching Other Fields	1	.8	1	.7	3	.8	1	.4	6	.7
Administration	8	6.6	15	10.5	12	3.2	13	5.8	48	5.6
Personnel, etc.										
Total Academic	59	48.4	40	28.0	263	70.7	68	30.1	430	49.8
FEDERAL GOVERNMENT	6	4.9	8	5.6	25	6.7	36	15.9	75	8.7
Veterans Administration	0		1	.7	7	1.9	8	3.5	16	1.9
Army-Navy-Air Force	1	.8	3	2.1	6	1.6	3	1.3	13	1.5
Other Agencies										
Total Fedl. Govt.	7	5.7	12	8.4	38	10.2	47	20.8	104	12.1
STATE AND CITY GOVERNMENT	15	12.3	27	18.9	9	2.4	9	4.0	60	7.0
School Systems	3	2.5	11	7.7	3	.8	9	4.0	26	3.0
Hospital & Clinics	5	4.1	3	2.1	2	.5	8	3.5	18	2.1
Other Agencies										
Total City & State	23	18.9	41	28.7	14	3.8	26	11.5	104	12.1
PRIVATE ORGANIZATIONS	0		4	2.8	14	3.8	11	4.9	29	3.4
Business & Industry	0		1	.7	13	3.5	6	2.7	20	2.3
Business Consultants	7	5.7	12	8.4	4	1.1	10	4.4	33	3.8
Clinics & Guidance	3	2.5	4	2.8	1	.3	1	.4	9	1.0
Schools	4	3.3	1	.7	5	1.3	0		10	1.2
Other										
Total Private Organizations	14	11.5	22	15.4	37	10.0	28	12.4	101	11.7
PRIVATE PRACTICE	4	3.3	5	3.5	7	1.9	5	2.2	21	2.3
MISCELLANEOUS	5	4.1	2	1.4	10	2.7	28	12.4	45	5.2
Other Occupations	1	.8	4	2.8	0		19	8.4	24	2.8
Student	9	7.4	17	11.9	3	.8	5	2.2	34	3.9
Unemployed and Retired										
Total Miscellaneous	15	12.3	23	16.1	13	3.5	52	23.0	103	11.9
TOTALS	122	100.1	143	100.1	372	100.1	226	100.0	863	99.9
	46%		54%		62%		38%			

51

80

131

No Biography

Figures in the *N* columns are from the sample taken from the 1948 Directory. Within the limits of sampling errors, figures in the *per cent* columns are applicable to the entire membership. In interpreting these percentages, however, note that some of them are based upon very small numbers of cases in the sample.

TABLE 5

1948 salary figures for members of APA categorized by principal occupational groups

SALARY	COLLEGE AND UNIVERSITY							FEDERAL GOV'T	STATE AND CITY GOV'T	PRIVATE ORGANIZATIONS
	Instr.	Asst. Prof.	Assoc. Prof.	Prof.	Head, Dean, Pres.	Pers. and Guid.	All Univ.			
000- 999										1
1000- 1999	11	1					12			1
2000- 2999	9	0	1		1	1	12	1	4	6
3000- 3999	13	12	6	1	1	6	39	5	15	15
4000- 4999	3	20	9	13	2	6	53	15	11	13
5000- 5999		11	9	13	5	3	41	22	8	10
6000- 6999		4	9	3	6	1	23	11	3	5
7000- 7999		2	2	10	2	1	17	5	0	6
8000- 8999				2	4		6	1	0	0
9000- 9999				1	0		1	1	0	1
10000-10999				2	1		3		1	1
11000-11999				1	1		2		0	1
12000 and Up									1	5
N ¹	36	50	36	46	23	18	209	61	43	65
Median	\$2800	\$4600	\$5200	\$5700	\$6400	\$4350	\$4800	\$5450	\$4250	\$4750
Median Gross Income ²	\$3200	\$5500	\$6000	\$7000	\$7650	\$4550	\$5550	\$5650	\$4750	\$5000

¹ Minor discrepancies in N's are due to the incompleteness of some questionnaires.

² Distribution not shown.

TABLE 6

1948 salaries of PhD's by sex and fields of employment

SALARIES	ACADEMIC		FEDERAL GOVERNMENT		STATE AND CITY GOVERNMENT		PRIVATE ORGANIZATIONS	
	Women	Men	Women	Men	Women	Men	Women	Men
000- 999								
1000- 1999		2						
2000- 2999	1	4				1	1	
3000- 3999	7	14			1	0	0	
4000- 4999	9	37			5	1	2	1
5000- 5999	4	34	2	3	4	2	3	3
6000- 6999	1	20	3	5	5	4	1	2
7000- 7999	1	13		9		3	1	3
8000- 8999	1	5		3		0	0	5
9000- 9999		1		0		0	0	0
10000-10999		3		1		1	0	1
11000-11999		2					1	0
12000 and Up								1
N	24	135	5	21	15	12	9	21
Median	\$4450	\$5300		\$6300	\$4400	\$5500	\$4500	\$7300

This table includes only those having full time positions.

THE ATTITUDES OF PSYCHOLOGISTS TOWARD PSYCHOLOGICAL MEETINGS

ALBERT ELLIS

New Jersey State Hospital, Greystone Park

DURING the course of every psychological association meeting many members are heard complaining about certain aspects of the convention, and many are heard commending this or that special feature of it. This study was planned to gather systematic information concerning the attitudes of psychologists toward their annual APA meetings.

At the APA convention in Boston 200 members were accosted on the mezzanine floor where most of the meetings were held, and were interviewed concerning their attitudes toward the convention. The interviewing was done on Friday afternoon and Saturday morning, when most of the interviewees had been at the convention for several days and had had sufficient opportunity to become acquainted with the proceedings and arrangements of the meetings.

The brief interview contained two questions:

1. What do you think the best features of these meetings in Boston are? What aspects of the convention have you personally got the most out of?

2. What do you think the worst aspects of these meetings are? What things would you most like to see improved about them?

The answers were taken down verbatim and later categorized according to their content. The favorable responses are summarized in Table 1; the unfavorable ones in Table 2.

The data show clearly that many features of the 1948 convention were quite popular with the attending members, and that other features were generally unpopular. Only a few respondents seemed to think that there was nothing that could be improved upon, while the overwhelming majority had more or less serious objections to at least a few aspects of the convention. If the statements and the feeling tones of the 200 interviewees are rearranged so that constructive suggestions for the possible improvement of APA conventions (and other psychological meetings) are drawn from them the following proposals would seem to be in order:

1. Members admittedly come to make interpersonal contacts, both of a professional and a social

nature. Planning informal meetings and discussions may be as important as scheduling formal talks, symposia, and other convention affairs.

2. Symposia appear to be at least as important to the attending members as research papers and prepared talks. These symposia, however, should be carefully prepared beforehand so that they may be

TABLE 1
Categories mentioned as being among the best aspects of the 1948 APA meetings by 200 interviewees

RESPONSE CATEGORY	NUMBER OF TIMES MENTIONED
Professional contacts; meeting speakers and people whose papers I've read; informal exchange of ideas	74
The symposia	73
Social contacts; conviviality; parties; meeting old friends and making new ones	56
Group discussions, like those initiated at the psychotherapy meetings	20
The invited speakers	20
Convenience of having meetings all in one place, easily accessible to all	18
Motion pictures	8
Special professional meetings, like those on Sunday before the regular meetings started	8
Informal meetings and discussions	7
Wide diversity of the papers	4
Housing arrangements	3
Job offers	3
Other aspects of the meetings	23
Total responses	317

stimulating and important and so that adequate audience participation is provided.

3. Small group discussions, like those initiated in 1948 in connection with the psychotherapeutic meetings, seem to be of great potential worth and should be experimentally extended.

4. Holding most of the meetings at one centralized place is desirable. The centralized place, however, should provide enough rooms for informal side discussions and gatherings.

TABLE 2

Categories mentioned as being among the worst aspects of the 1948 APA meetings by 200 interviewees

RESPONSE CATEGORY	NUMBER OF TIMES MENTIONED
Papers not adequately screened; low quality level; not adequately prepared, or containing premature material.	75
Discussion time too brief; not enough audience participation.	32
Conflicts in the scheduling; too many things at once; similar papers and symposia simultaneously scheduled.	19
Research papers too brief; too many per session; inadequate intermission between papers.	18
Acoustics bad; microphones badly placed; no floor microphones for speakers from audience.	17
Social activities and informal groups inadequately organized; no attempt to arrange informal discussions for members with the same interests.	13
Meeting space inadequate; not enough rooms for members to congregate in; generally cramped quarters.	12
Some symposia badly planned and run; inadequate audience participation; speakers dull and long-winded.	11
Rooms too small for some meetings; motion picture room too small.	11
Ventilation and air conditioning inadequate.	11
Research papers often too statistical; too many tables.	9
Housing arrangements inadequate; not enough members able to stay at the Hotel Statler.	9
Sessions late in starting; papers not kept on schedule.	8
Some speeches, such as presidential addresses, much too long.	8
Convention lasted too long; 3 instead of 6 days might have been sufficient.	8
Registration started too late; advance mail registration could have been arranged.	8
Some papers and meetings too repetitious.	7
Exhibits inconveniently located and not given adequate space.	7
Directory of attending members too inaccessible.	6
Some research papers too abstruse.	6
Some speakers dull and spoke in a monotonous, mumbling manner.	6
Some meetings held too early in the morning.	4
Other bad aspects of the meetings.	49
Total responses.	354

5. Invited outside speakers of the calibre used at the 1948 convention seem to have a good deal to offer psychologists, and the practice of inviting them should be continued.

6. Special features like motion pictures and meetings devoted to professional problems seem to be appreciated and are worth continuing.

7. Research papers should be far more strictly screened than apparently was the case at the 1948 meetings. They should be given at shorter sessions, with brief intermission periods between papers. Perhaps somewhat longer but fewer papers per session would be advisable. They should not include too much statistical material, and should be presented in less abstruse language than they usually are.

8. Considerably more discussion time should be provided, especially at research papers, but also at other meetings. Arrangements for more audience participation should be made.

9. Sessions should start promptly and should be kept to their schedules. Speakers and symposia members should be told in advance that they are not to make too lengthy addresses.

10. Perhaps it would be better to schedule fewer events simultaneously. Perhaps it would also be better to cut down the overall length of the meetings. (How these two objectives are to be satisfactorily attained it is difficult to see; but that they should be attained a sizable portion of the members seem to agree.)

11. Registration and directory arrangements should be improved. Advance registration should be considered. A directory of all attending members should be provided which is easily accessible to all who wish to consult it.

12. Exhibits should be given adequate space and should be placed where they are conveniently accessible.

13. Speakers should be impressed with the fact that dullness, monotony, mumbling, obscurantism, and verbosity are likely to do little good for their professional reputations or for the receptivity of their audiences.

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FUNCTIONAL SPECIFICATIONS FOR A SOUND RECORDER FOR THE PSYCHOLOGICAL CLINIC

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TECHNICAL developments in sound recording are apparently fomenting a revolution in training and research in clinical psychology. Allied fields which depend on the interview, such as vocational and educational counseling, psychiatry and social work, are also in the path of rapid change. Despite the enthusiasm over mechanical and electrical methods of recording and preserving verbatim records of the interview or test, difficulties, doubts and common problems of finance stand in the way of full realization of the benefits we now expect.

With adequate sound recording, students need no longer be closeted in a room and expected to report accurately the data they are not yet trained to hear or judge. Although recorded interviews do not preserve the total interview in all its audible and visual aspects, no longer need the fallible clinician depend on his own wits and conscience to record what actually was said by *himself* as well as the client in that so private office. Intercommunication systems and two-way screens will remain as valuable adjuncts. Yet if adequate sound recording equipment can be obtained, its varied uses and remotely sensed possibilities far surpass for training and research any other device except the now hopelessly expensive sound-motion-picture recorder.

The catch, well known to those who have been shopping for equipment, lies in the lack of a good sound recorder which meets all the requirements for clinical work. There are literally dozens of recorders on the market. With a very large budget, excellent recordings of professional equipment can be obtained without difficulty. Lacking a budget which permits the hiring of engineers and operators, inadequate recordings are likely to be the rule. Yet all of the engineering problems have been solved at least in principle. The ideal recorder for the work in mind is neither impractical nor far in the future. It is the writer's hope that this article may help to exert pressure towards hastening its development.

The following specifications have been set forth in

some detail as they point directly to the practical problems which must be solved by anyone hoping to make inexpensive, intelligible recordings in a clinical situation. They are presented from the viewpoint of a prospective purchaser who is employed by a university, clinic, social agency or hospital where modest budgets are the rule and where maintenance personnel can be called in for help rather than hired. It is obvious that some of the specifications, such as cost, reflect hopeful estimates based on knowledge of prices of post-war recorders. Other specifications have been included as a result of experience which points to the need for versatility at the sacrifice of perfect equipment designed to meet only one standard set of operating conditions.

COSTS

Initial Cost: The ideal recording device with microphone should list under \$300. This sum is not unreasonable since for less than this one can now buy at least two makes of wire recorders and two of disc recorders which meet many *but not all* of the essential specifications. One good wire recorder is now priced at \$400 while others are obtainable above \$600. Professional disc devices which permit more than eight minutes recording per platter usually cost well above the wire recorders. A device completely satisfactory in all other respects would be worth more than \$300 under present conditions. However, if the usefulness of recorders is fully realized, even small training or research activities should have at least one recorder for each full time staff member engaged in training or interviewing or one recorder for each five or ten graduate students in a university. Present developments in sound recording indicate that materials required are no more inherently expensive than are radio parts.

Maintenance: The device should withstand normal extremes of temperature and voltage fluctuation, dust and vibration found in a business office, handling by non-expert operators and proximity to

other electrical apparatus. No one expects a completely fool-proof or absolutely reliable electrical-mechanical apparatus but modern design has insured the above qualities in similar devices. Most recorders now on the market are simple enough to be serviced by a reputable radio repairman if a good service manual is available. Maintenance costs can also be reduced by having a good operation manual available.

Recording Costs: It is now practical to hope for a device which will permit one to record eight hours a day if necessary and to throw away or erase the unwanted material. Discs for the dictation type recorder can be had at under twenty cents per hour recording. However, such dictation devices usually have low intelligibility on playback except under special conditions involving dictation directly into the microphone which is rarely desirable under clinic conditions. Wire or other types of magnetic recorders involve an initial outlay of \$2.50 to \$7 for one hour of wire or tape recording. Unlike the disc, the wire or tape can be erased and reused almost indefinitely. Unfortunately, if one wishes to preserve the material, the cost of re-recording the interview is excessive. The time required for immediate typing makes necessary the purchase of many additional spools so that the supposed advantage gained by erasure may be more than offset by the cost of a stockpile of spools. Film recording is somewhat less expensive than magnetic, but film erasure is impossible and one eight-hour day of recording may cost more than \$10.00. The high-fidelity magnetic device can be used for initial recording with desired selections cut on inexpensive discs. As a temporary measure, satisfactory results can thus be obtained, although this practice is undesirable in view of the duplication of equipment, the length of time involved in transfer, and the labor cost of an operator to monitor the procedure. As a stop-gap pending development of ideal equipment, it is a possible expedient.

Transcription Costs: This item is a function of other aspects of the ideal device, since playback intelligibility and efficient control by the stenographer help determine length of typing time. Analysis of typescripts is at least ten times more efficient than analysis of original recordings when voice quality and inflections are not of interest. Anyone expecting to obtain typescripts from recordings of interviews should expect to pay a *good* typist at the rate of three to five hours for every hour of recording since transcription time depends not

only on the typist but also varies with the initial intelligibility and rapidity of the words spoken. Dictation devices possess very efficient transcription aids for either the disc or wire recorder. In most models the manufacturer has cannily put out playback instruments at approximately the same price as the recorder but insuring that the playback can not be used as a recorder. If the playback is reasonably priced there is little reason why one device should serve both functions. For most clinics, however, a double function recorder and playback is of considerable convenience when inevitable borrowings or malfunctions occur.

OPERATION

Recording Period: Ideally the device should record for at least one full hour without need for changing units. Only the wire and film recorders meet this requirement at present. Disc recorders vary from four minutes for the standard "home recorders" to one-half hour for one of the dictation devices.

The Operator: No operator except the interviewer manipulating simple remote controls should be necessary if the device is to take full advantage of technical developments. Third person operators immeasurably increase operational problems unless one can hire a full time secretary or technician for this purpose alone. There are no technical problems in providing remote controls for starting and stopping such devices. An automatic shutoff with visual or auditory warning signal at the end of the hour should be standard equipment. If the device records for less than one hour, it is possible but inconvenient for the interviewer to excuse himself and change units once during the hour. For devices which record for less than one-half hour, a separate operator is almost a necessity. The interviewer should be his own operator with a minimum number of duties to interrupt his clinical work. Automatic control of input volume presents the only cloud on this horizon. Manual control with visual signals represents the most practical solution at present although automatic control of input is feasible but expensive.

Noise: Since some recording will inevitably be carried on in the interviewing room or laboratory, the instrument should be relatively noiseless outside a radius of two or three feet. Most present recorders come close to meeting this requirement although most also develop whinings and scrapings at unexpected times.

Portability: While unnecessary for all customers,

at least a sizeable minority require portability for work in hospitals, in clinics where a recorder may be needed in different offices, or where playback is required in a classroom. The carrying case should have an interior compartment for the microphone.

The Playback: For obtaining typescripts the playback must have a backspacer operated by foot or manual control. Even the best typist is ordinarily incapable of successfully transcribing all interviews without frequent back spacing. Rapid business dictation is much easier to transcribe than a conversation carried on by two or more persons. The playback must also have a simple attachment, usually a timing device, for finding almost instantly any desired portion of the interview. This is of particular importance when recordings are used for training purposes.

Rewinding: Here disc and film recorders have a distinct advantage as wire recorders usually consume from three minutes to one-half hour for rewinding a one-hour recording. The high speed rewind on wire is likely to present difficulties because of the very high speed required with hair-like wires of relatively low tensile strength. One magnetic tape recorder rewinds in approximately one-thirtieth of recording time but has no provision for stenographic control over back-spacing. The most practical device should eliminate rewind or, if rewinding is inevitable, high speed rewind should be at least one-twelfth of recording time. High speed *forward* wind is also essential for scanning records. High speed wind and rewind should operate by gearing without removal of spools or tape from their recording location on the machine.

Monitoring: To insure intelligible recording as well as to permit students or instructors to listen in while the interview or test is in progress, the recorder should have a built-in socket for headphones to monitor input. The flashing lamp which is standard equipment on most recorders is not adequate for checking input.

Recording Units: Whatever the unit, disc, wire or film, it must provide a simple method for marking for rapid identification of the unit or certain parts of the unit. Plastic discs are much easier to file or mail than are wires or tapes.

PERFORMANCE¹

Intelligibility: The primary purpose of clinical recording is to obtain a permanent or semi-

permanent record of the words spoken in the interview or test. Quality can therefore be defined primarily in terms of intelligibility rather than fidelity. If the listener (student, instructor or typist) is able to understand the passages between respondent and interviewer without having to replay the unit, almost all clinical demands are satisfied. This ordinarily requires a device which is sensitive to frequencies from about 250 to 2500 cycles although 160 to 5000 cycles may well be within the realm of profitable production. Either range will include most sounds such as gasps, yawns, breath-catching, explosive or indrawn qualities, and the other gross vocal signs by which we ordinarily recognize emotional or attitudinal responses.

Neither range provides the high fidelity required for subtle discrimination of speech defects, for musical pleasure, or painstaking research on voice quality. Unusual qualities of the higher sibilants and consonants usually appear above 5000 cycles and some male fundamental frequencies are found as low as 90 cycles. Nonetheless, within the range of roughly 5000 cycles, adequate fidelity is obtained for practically all clinical analysis involving interview content and most of the grosser aspects of speech pathologies. (When inspecting a recorder it is well to remember that salesmen and demonstrators try to provide ideal recording conditions which are usually far superior to those found in most clinics. Also, men's voices are much easier to record intelligibly than are women's voices in the usual clinical setting.)

Determinants of Performance: Intelligibility obviously involves acoustical characteristics of the interviewing room, microphone sensitivity, recorder sensitivity and playback quality. It may also be interfered with, especially when high impedance equipment is used, by electrical fields arising from other equipment used in the vicinity of the recording device. Such interference can only be ascertained by actual try-out of the device in the exact location where it is to be used. Shielding of line and connections may solve most problems of this sort although the recorder itself should be constructed with such interferences in mind. The degree of soundproofing (that is, the elimination of outside noise) of a room will need to be determined by the requirements of the specific recording situation and will be influenced largely by the location of the clinic and the material of which it is constructed. Most rooms can be rather inexpensively adapted for sound recording by the use of sound absorbent

¹ Dr. D. W. Morris, Director of the Speech Clinic at Ohio State University, gave invaluable help in editing the technical aspects of this section.

materials ranging from wall hangings to sprayed-on asbestos. Excessive use of sound absorbent materials is not desirable since the "dead" quality of a non-reverberant room is apt to be disturbing, while the expense involved is unnecessary for purposes of intelligible recording. Microphones, when carefully selected for the needs of the specific situation, are rarely a problem since the engineers have designed standard mikes for almost all conceivable purposes and conditions. Matching of impedances may be necessary if another microphone is substituted for the one which comes with the

plification and loud-speakers. Such accessory equipment would be generally desirable although if the original device is of such high quality and power as to obviate the need, so much the better.

This hopeful statement of the requirements for a recorder to meet the major needs of the clinician has purposely avoided any technical discussion of the specific kind of material to be used as a recording medium. No preference is felt for metals versus plastics, for magnetic rather than disc recording, for dynamic versus crystal microphones. These are the problems of the electrical, sound and cost engineers.

TABLE 1
Names and addresses of the manufacturers of recording equipment¹

DISC RECORDERS	
Ediphone.....	(See local sales division)
Gray Mfg. Co.....	Audograph Division, Hartford 1, Conn.
Presto Recording Corp.....	242 W. 55 Street, N. Y. C.
Soundscribe Corp.....	(See local distributor)
Wagner Recorder Mfg. Corp.....	67 W. 44 Street, N. Y. 18, N. Y.
FILM RECORDERS	
Dictaphone.....	(See local sales division)
Hartron (Frederick Hart and Co., Inc.).....	Poughkeepsie, N. Y.
TAPE RECORDERS	
Amplifier Corp. of America.....	366 Broadway, N. Y. 13, N. Y.
Brush Development Co.....	Cleveland 14, O.
Webster Electric Co.....	Racine, Wis.
WIRE RECORDERS	
Air King Products Co.....	170—53 Street, Brooklyn 32, N. Y.
Brush Development Co.....	Cleveland 14, O.
Lear Inc.....	Grand Rapids 2, Mich.
Pierce Magnetic Wire Recording Corp.....	Evanston, Ill.
RCA.....	Sound Products Section, Camden, N. J.
Webster-Chicago.....	Chicago 39, Ill.

¹ Dr. Bernard J. Covner, Supervisor of Training, Berger Bros., New Haven, Conn., offers to supply upon request a list of manufacturers of sound-recording equipment.

recorder. Such substitution is frequently desirable if the mike is to be concealed temporarily or permanently. It should be noted that microphones can be too sensitive as well as undersensitive depending upon the special pattern of recording conditions.

Playback Volume: Like microphones, loud speakers exist in such profuse variety that few real problems exist here. All known recorders come with loud-speakers suitable for at least one or two listeners. The ideal device should have playback volume sufficient to insure intelligibility for a staff conference of five to ten persons. If playback is desired before a larger group such as a whole class of 20 to 60 persons, standard equipment playback can usually be supplemented with additional am-

The writer has been unable to find an existing recorder which meets all of the requirements in the above list. If one has come on the market, its existence should certainly be made known to the profession at large. Psychologists with whom the writer is acquainted seem also to be engaged in the search for a device which is economical within the limits of known costs of construction, efficient within the limits of present technical development, and durable within the limits of currently available materials.

REPRESENTATIVE RECORDERS

The extremely rapid changes in manufacturers' products makes any list of available recorders ob-

TABLE 2
Specifications of sound recorders

MANUFACTURER	MODEL	LIST PRICE (APPROXIMATE)	UNIT PRICE (APPROXIMATE)	MAXIMUM RECORD TIME IN MINUTES	STENO- GRAPHIC ATTACH- MENTS	MONITOR WHILE RE- CORDING?	LOCA- TOR?	REWIND RATIO	HIGH SPEED FORWARD?	FREQUENCY RESPONSE IN CPS (MFG. CLAIM)	DESIGN- ED AS PORT- ABLE?	WEIGHT IN LBS.	COMMENTS
DISC RECORDERS													
Ediphone	Centennial	\$350	\$.10	15	+	+	+	DNA	DNA	400-000	+	30	Separate Transcriber
Gray Audograph	Master	320	.13	30	+	+	+	DNA	DNA	300-3500	+	16	Separate Transcriber
Gray Audograph	Executive	283	.13	30	+	+	+	DNA	DNA	300-3500	+	16	Separate Transcriber
Presto	K	348	varies ¹	15	-	-	-	DNA	DNA	80-5000	+	46	Requires Operator
Presto	62-A	530	varies ¹	15	-	-	-	DNA	DNA	50-9000	+	90	Separate Transcriber
Soundscraper	Desk	303	.10	15	+	+	+	DNA	DNA	DNA	-	18	Separate Transcriber
Soundscraper	Portable	308	.10	15	+	+	+	DNA	DNA	DNA	+	21	Separate Transcriber
Soundscraper	Dual	671	.10	30	+	+	+	DNA	DNA	DNA	+	35	Separate Transcriber
Wagner-Nichols	W-N	160	.20	15	-	-	-	DNA	DNA	DNA	+	30	Separate Transcriber
FILM RECORDERS													
Dictaphone	A2M	980	.10	60	+	+	+	DNA	DNA	300-2500	-	135	Plastic "Memo" Belt
Dictaphone	Time-Master	350	.10	15 ²	+	-	+	DNA	DNA	DNA	+	20	Plastic "Memo" Belt
Hartson	VRF-3	890	1.85	240	+	+	+	DNA	DNA	300-4500	+	64	35mm Film
Hartson	60	695	1.85	180	+	+	+	DNA	DNA	200-5000	+	50	35mm Film
TAPE RECORDERS													
Amplifier	800A	239	2.50	30	+	+	+	1/60	1/60	80-8000	+	40	
Amplifier	800E	312	5.00	60	+	+	+	1/60	1/60	80-5000	+	40	
Amplifier	900B	545		3 1/2 hrs.	+	+	+	1/60	1/60	70-9000	-	58	
Amplifier	900E	595		6 hrs.	+	+	+	1/60	1/60	80-5000	-	58	
Brush	BK-401	230	2.50	30	-	-	-	1/30	-	100-7500	-	40	
Brush	BK-403	370	2.50	50+	-	-	-	1/30	-	100-7500	+	50	
Webster Racine			3.00	30	-	+	+	1/11	-	-6000	+	45	
WIRE RECORDERS													
Air King	750	139	5.00	60	-	-	-	1/7	-	85-5000	+	25	Record Player
Brush	BK-303	795	8.25	180	-	+	+	1/15	15/1	55-7000	+	50	"Magnetone"
Lear	WC-311-D	595	5.00	60	+	+	+	1/20	20/1	60-7000	+	90 ⁵	"Dynaport"
Pierce	55B	400	6.75	60	+	+	+	1/2 ⁶	- ⁶	150-5000	+	30	
RCA		195	15.00 ⁷	30	+	+	+	+	+	100-5000	+	24	
Webster-Chicago	80	150	5.00	60	-	-	-	1/7	-	50-5000	+	27	

¹ Presto: Unit price varies with quality, manufacturer, and size of disc.

² Dictaphone Time-Master: Maximum recording time can be increased to 1/2 hour by factory modification \$25.00 additional.

³ Amplifier: Stenographic attachments \$65.00 additional.

⁴ Amplifier: Portable Model \$42.00 additional for models in "800" series.

⁵ Lear: The Dynaport although weighing 90 lbs. is broken down into 2 units for portability.

⁶ Pierce: Separate High Speed Rewind reduces ratio to 1/6 for rewind for forward wind.

⁷ RCA: Uses cartridge feed.

solete by the time it is printed. Table 2 gives the pertinent characteristics for most of the major recorders now on the market which are suitable for recording in one or another clinical situation. Professional recorders are not included in the tables. Not all equipment has been listed and it is very likely that some of the descriptive material will be inaccurate by time of publication. At least four of the manufacturers in Table 1 are known to be planning improved models for which specifications can not now be released.

List prices are very unstable and prices given are *very approximate*. Prices have moved upward about twenty per cent between November 1947 and August 1948. Excise and sales taxes increase costs noticeably.

The abbreviations in Table 2 are to be interpreted as follows. A "+" means that the specified characteristic or attachment is standard equip-

ment or easily obtainable. A "-" indicates that the characteristic or attachment is not suitable or probably not procurable for the recorder in question. A blank space indicates lack of definite information since not all requested data were supplied by the manufacturer. "DNA" means "Does Not Apply" to device in question (e.g., there is no need for Rewind Ratios or High Speeds Forward on disc recorders). Note that "Maximum Recording Time in Minutes" for disc devices can be doubled by using the opposite side although this requires turning the disc. Shorter recording units are available for all devices whose listed maximum recording time is more than 15 minutes. The frequency response for each device is based on advertising or manufacturer's statement and in most cases is probably accurate at the upper extreme within 1000 cps.

Received November 12, 1947

Across the Secretary's Desk

1949 DUES

Bills for 1949 dues have been mailed to all members. They include dues for APA membership and the additional amount which is charged for membership in each division, over one, that a person belongs to. They do not include special assessments that some of the divisions are levying on their members; bills for such special assessments will be mailed separately.

The bills are out earlier this year than they have been in recent years in order to give members more time to pay before December 31 and in order to give the APA office more time to record the payments and subscriptions for 1949. This is the schedule that will be followed:

All members will receive January, 1949 issues of the *American Psychologist*, the *Psychological Abstracts*, and the *Psychological Bulletin*, whether they have paid for 1949 or not. Club subscriptions will, in contrast, be stopped with the last issue of the 1948 journals.

Members whose 1949 dues are paid before December 31, 1948 will receive 1949 journals regularly as they are printed.

Members who pay 1949 dues after January 1, 1949 will begin receiving journals about a month after their dues are received and recorded. They will not be sent missing issues unless they include an additional payment of \$2.00 to cover the costs of having the printers make special shipments to them.

PUBLICATION POLICIES AND PROBLEMS

The whole family of APA journals has grown up more by accretion than by systematic planning. Two of them—the *Psychological Abstracts* and the *American Psychologist*—were actually started by the APA itself. The rest had all been published for some years before becoming APA property. The *Journal of Consulting Psychology* came under APA direction with the amalgamation of the AAAP and the APA. The other seven were gifts or purchases from former owners.

With ten journals to handle, the Council of Representatives this year decided that it is time for a systematic analysis of the Association's publications. The Committee on Publications has agreed to canvass the probable publication needs of the next few

years and to recommend how the journals should be changed, if at all, to meet those needs better than they do now.

In the meantime, the Committee on Publications and the Council of Representatives have made several specific decisions concerning APA publication policies. Three APA divisions recommended to the Council that the annual size of the *Journal of Experimental Psychology* be doubled in order to reduce the publication lag for this journal. Council approved this recommendation, but put a one-year time limit on it. For 1949, therefore, the *Journal of Experimental Psychology* will contain twice its normal amount of material.

A second decision made by the Council of Representatives was to free the members from the club-rate arrangements. For a number of years members have been able to subscribe at reduced rates to all or to selected groups of APA journals which they do not get automatically as part of their membership privileges. These club groups were made up to fit as closely as possible to the wishes of the majority of the members, but they did not fit the reading desires of every member. Beginning in 1949, Council decided, any member can subscribe to any journal he chooses. The rates will be \$3.00 per journal. That amounts to about half the rates charged to non-members who subscribe to the journals. The one exception is the *Journal of Experimental Psychology*. Since it will be doubled in size during 1949, it will be \$6.00 per year. An exception of a different kind is the *American Journal of Psychology*. It does not belong to the APA, but it is also available to APA members at \$3.00 per year. Any member who wants to receive all eight journals can subscribe to the entire group for \$20.00 a year.

A third decision was on the question of prior publication. Each editor is allowed to decide for himself whether or not authors can secure publication of their accepted articles ahead of their regular turn by paying the full printing costs. The following journals will follow this policy: *Journal of Applied Psychology*, *Journal of Comparative and Physiological Psychology*, *Journal of Consulting Psychology*, *Journal of Experimental Psychology*, and the *Psychological Bulletin*. Articles will not be accepted for prior publication in the *American Psychologist*, *Journal of Abnormal and Social Psychology*, and *Psychological Review*. The

Psychological Abstracts and the *Psychological Monographs: General and Applied* are journals to which the question of prior publication does not apply.

In the case of the *American Psychologist* the Publications Committee made an exception to the general policy of leaving the question entirely to the editor's judgment. In this journal the Association's official papers and some other articles are printed in terms of their timeliness rather than in terms of when they reached the editorial office. When some papers are published ahead of their turn anyway, it did not seem wise to allow other papers to be published ahead of turn at the author's expense. The *American Psychologist* will therefore publish some articles ahead of their turn, but will do so in terms of the editor's judgment and not because the author has paid to secure early publication.

The Committee on Publications recommended to all APA editors that hereafter APA journals should print with each article the date on which it was received in satisfactory form by the editor.

As the professional journal for psychologists, the *American Psychologist* publishes the programs, proceedings, committee reports, and other official papers of the APA and other psychological associations. During 1948 these official papers have taken a total of 245 pages. *Notes and News*, *Comment*, *Across the Secretary's Desk*, and other material such as the monthly table of contents require about 145 pages during the year. Since the annual volume runs to about 570 pages, only 180 pages are left for the printing of contributed articles. In choosing articles for these 180 pages we must select from among the submitted manuscripts those which seem to be of greatest general interest or importance. Since the *American Psychologist* represents the whole of psychology rather than a particular field, we select partly on the basis of an effort to represent diverse interests within the Association.

The manuscripts accepted for publication are chosen from among many more articles than space allows us to print. Since January 1, 1948 we have received 86 manuscripts. Thirty-one of these have been accepted. A good many of the 31 have been

shortened in order to allow more papers to be printed. Practically always, for example, an article which ends near the top of a page is shortened enough to make it end on the bottom of the preceding page. Frequently even greater cutting is done. Articles which in their original form would require six or seven pages are often shortened to print on four or five pages. A number of two-page articles are reduced from original three- or four-page length. Some are shortened even more; two of the letters which appeared recently in the *Comment* section arrived in the editorial office as full-length articles. By these means we will publish during 1948 about 40 articles. Even so, it has been necessary in the first nine and one-half months of this year to return 44 unaccepted manuscripts to their authors.

After articles are accepted, the problem of scheduling their publication arises. They are scheduled on three bases. One is order of receipt. A second is that articles are occasionally published ahead of their turn if they appear to be particularly timely. For example, the article by Albert Ellis in this issue was received and accepted in September, 1948. It was published in this issue in order to have it appear with the other reports of the 1948 Annual Meeting.

The third basis used in scheduling articles is their length. Because of the way in which printing presses work, it is less expensive to print two issues of 32 pages each than it is to print the same total number of pages in any other distribution, such as issues of 28 and 36 pages. When we make up each issue, we select those articles which, together with the other necessary materials such as the *Notes and News*, will make up an issue that is economical to print. We may, for example, print a three-page article ahead of an older five-page one, because it fits the particular issue which is being made up.

Following the recommendation of the Committee on Publications, we are starting with this issue to print the date of receipt of each regular article. The articles will not, however, always appear in chronological order. Timeliness and economy, as well as priority, govern the makeup of each issue.

DAEL WOLFLE

[illegible]

cal officers leading to American Board certification in various specialties.

Herman Molish has taken leave of absence from his position as chief clinical psychologist, VA Mental Hygiene Clinic, Baltimore, to work as a research psychologist with Samuel J. Beck at Michael Reese Hospital in Chicago.

Mylen E. Fitzwater, formerly instructor at Ohio Wesleyan, has been appointed assistant professor of psychology at Bowling Green State University.

P. Evans Coleman, formerly with the New Jersey Rehabilitation Commission, is now on the faculty of the University of Bridgeport.

Mary Adams of the State University of Iowa and Leo Eilbert of CCNY have been appointed interns in clinical psychology at the Wichita Guidance Center for 1948-49.

Douglas W. Bray has joined the staff of the Study of Education at Princeton and the department of psychology as research associate. Franklin P. Kilpatrick is research assistant on the staff of the Study of Education at Princeton.

Joseph Stubbins has accepted a position as instructor in the department of education and psychology at Long Island University

Howard B. Lyman, formerly of the University of Minnesota, has accepted a position at East Texas State Teachers College as assistant director of personnel and guidance.

Gertrude Hildreth has been appointed assistant professor of education at Brooklyn College.

Roscoe A. Dykman has been appointed instructor in psychology at the Illinois Institute of Technology.

Hans M. Kakies is special adviser to the VA Special Rehabilitation and Advisement Unit, Denver, and also in charge of the testing services for the regional office.

Raymond A. Kemper from Columbia University has a joint appointment in the Psychological Services Center and the department of psychology at the University of Louisville. He will also develop a consulting service for business and industry in the community.

Joseph F. Snyder is now a lieutenant with the Aviation Psychology Branch of the Bureau of Medicine and Surgery, Navy Department, Washington. He was formerly with Burlington Mills Corporation, Greensboro, North Carolina.

Wesley S. Roeder has been appointed associate professor at the University of Portland and also director of the Northwest Guidance and Counseling Center at Portland.

Kenneth G. Nelson, formerly clinical counselor in the General College of the University of Minnesota, is now assistant professor of education at Michigan State College.

Alfred M. Goetschius, formerly of the University of Maine, has joined the staff of the psychology department of Juniata College.

Howard D. Hadley, formerly instructor at Syracuse University, is now a technical consultant with Daniel Starch and Staff.

Lt. Col. Anthony C. Tucker has been assigned to Letterman General Hospital, San Francisco. He will conduct a study of the selection of Army medi-

The department of psychology at the University of Chicago has announced the following appointments for 1948-49: James G. Miller, chairman, Helen L. Koch, professor and coordinator of the nursery school; Carl R. Rogers, professor and executive secretary, Counseling Center, University of Chicago; David Shakow, professor on a part-time basis, loaned from Illinois' College of Medicine; William Stephenson, visiting professor from the University of Oxford; Thelma G. Thurstone, re-

search associate; and L. L. Thurstone, Charles F. Grey Distinguished Service Professor. Associate professors are: Howard F. Hunt, formerly of Stanford University; Bruno Bettelheim, associate professor of educational psychology; Herbert A. Thelen, associate professor of educational psychology; and William D. Neff. Assistant professors are: Bernard G. Rosenthal, formerly of Princeton University; Thomas Gordon, formerly of the Institute for Research, University of Pittsburgh (beginning with the winter quarter); Morris I. Stein, formerly of Harvard, research associate at the rank of assistant professor; William E. Henry, formerly of the Committee on Human Development, University of Chicago; and Garth J. Thomas. Instructors are: Lorraine Bouthilet, executive secretary of the department and instructor on the staff, who also retains her former connection with Science Research Associates; Donald W. Fiske, formerly of the University of Michigan; Jacob L. Gewirtz, formerly of the Iowa Child Welfare Research Station; Donald L. Grummon, also assistant counselor, Counseling Center, University of Chicago; Eckhard H. Hess, formerly of Johns Hopkins University; Julius Seeman, formerly of the Committee on Human Development, University of Chicago, and also assistant counselor, Counseling Center, University of Chicago; and Arthur Shedlin, also dean of students in University College. Lecturers, including summer appointments, are: Samuel J. Beck, Michael Reese Hospital, Chicago; Hedda Bolgar Bekker, VA Mental Hygiene Clinic, Chicago; Douglas D. Blocksma, administrative coordinator, Counseling Center, University of Chicago; Roy A. Brener, Hines VA Hospital; Roy A. Doty, George Fry and Associates; Paul H. Schiller, Yerkes Laboratories; and Joseph Wepman, Department of Otolaryngology, University of Chicago.

Carl R. Rogers taught during the summer quarter in the Department of Social Relations at Harvard; Thelma and L. L. Thurstone spent last spring quarter at the University of Frankfurt; and Helen L. Koch will be at the University of Frankfurt during the fall and winter quarters. Forrest L. Kingsbury, professor emeritus of the University of Chicago, accepted a position as visiting professor at the University of Redlands for the coming year.

The University of Buffalo has added six members to the full-time staff of the department of psychology for the current academic year: Thomas W. Kennelly,

Jr. joined the staff on June 1 as associate professor and director of the Psychological Clinic. The following assumed their duties in September: Marvin J. Feldman, formerly of the University of California, and Irwin N. Katz, from Stanford University, as assistant professors; Nathan Shenfeld, from the Lincoln State School and Colony, Walter Cohen, from the University of Michigan, and Sidney M. Jourard, from the University of Toronto, as instructors.

B. Richard Bugelski was promoted to the rank of associate professor. He continues as Director of the Psychological Laboratories. David Abel and Rudolf Mathias, formerly teaching fellows in the department, have been appointed full-time instructors. Lloyd Schwartz and George Thompson have been appointed teaching fellows. Continuing on the instructional staff are Edward S. Jones, Olive P. Lester, Anna G. Douglas, Dorothea D. Gray, Norma L. Stimson, Donald H. Bullock, Bernard Goldman, and Carleton F. Schofield, chairman of the department.

Kennon F. McCormick of the University of Nebraska and John C. Townsend of the University of Pittsburgh have joined the faculty of West Virginia University as assistant professors of psychology. Quin F. Curtis has been promoted to professor and acting head of the department following the retirement of John E. Winter.

Abraham Carp of Stanford has been appointed assistant professor of psychology at the University of Wisconsin. David A. Grant and Ann Margaret have both been promoted to the rank of professor of psychology at Wisconsin.

William A. Hunt of Northwestern University has been granted \$11,000 by the Office of Naval Research for its research project on abbreviated intelligence tests. In collaboration with Robert L. French of Northwestern, he will also initiate studies dealing with new tests for diagnostic purposes.

Donald B. Lindsley, William A. Hunt, and T. W. Richards of Northwestern have been appointed consultants to VA in the Chicago area.

Albert E. Goss, who received the PhD from the State University of Iowa in August, has been appointed instructor of psychology at the University of Massachusetts. Other members of the department at Massachusetts are Barbara A. Phillips, instructor; Robert S. Feldman, assistant professor; Theodore R.

Vallance, assistant professor; and Claude C. Neet, professor and chairman.

At its annual meeting in June the Southern California Psychological Association elected Theodore Perkins of Claremont College as president, and Gilbert Brighthouse of Occidental College as a member of the Board of Directors. Luton Ackerson, of Box 1003, Beverly Hills, California, continues as secretary-treasurer.

A clearing house for research in child life has been established in the Federal Children's Bureau as an aid to research workers in keeping up with studies in progress. It has been set up in response to numerous requests from research workers and professional organizations, and will bridge the time-gap between completion and publication of work. A bulletin will be released in 1949. Inquiries should be directed to Dr. Clara E. Councell, Director, Clearinghouse, Children's Bureau, Federal Security Agency, Washington 25, D. C.

The University of Minnesota has this year established two new interdisciplinary programs in the social science field. The first is known as the Social Science Research Center, attached to the Office of the Dean of the Graduate School. This organization, which includes representatives of fifteen departments or colleges falling within a broad definition of the social sciences, has five preliminary tasks: the coordination of local social science research; the development of new research areas; the improvement of graduate instruction in the social sciences; the expansion of research funds for social science activities; and the establishment of community relations that will advance the social scientists' contributions. The Executive Committee of the Center comprises: F. Stuart Chapin, chairman, department of sociology; Lloyd M. Short, political science; Walter W. Cook, educational psychology; Gaylord Anderson, public health; and Lawrence D. Steefel, history.

The second program is known as the Laboratory for Research in Social Relations. It operates administratively within the College of Science, Literature and the Arts and has free research funds from both the Graduate School of the University of Minnesota and the Carnegie Corporation. The members of the Laboratory team are working cooperatively on research projects in group dynamics

and human relations. The Laboratory team members at the present time are as follows: E. D. Monachesi and Neal Gross, sociology; Herbert McClosky and Alfred de Grazia, political science; Kenneth E. Clark, Charles Bird, and Harrison Gough, psychology; Dale Harris and William Martin, Institute of Child Welfare. Charles Bird serves as chairman of the Laboratory team.

John G. Darley serves as the secretary of these two programs.

A radio program entitled "Psychologically Speaking" began Tuesday, October 12, at 10 p.m. over the University of the Air on Station WEVD, New York. Molly Harrower, the first guest, discussed the International Congress on Mental Health. Following her were William Crissy on industrial psychology and E. K. Schwartz on psychic research. Psychologists interested in presenting their views should write Mrs. Lee Steiner, 114 W. 61st St., New York 23, New York.

The *Psychological Record*, which suspended publication in 1945 because of decreased psychological production, will soon resume publication with Volume 6. J. R. Kantor, Indiana University, will remain as editor; N. H. Pronko, University of Wichita, is now managing editor. A new editorial board will soon be announced. The editors hope that the policy of immediate publication, which *The Record* will continue, will ameliorate the present printing lag. Correspondence should be addressed to Dr. N. H. Pronko, University of Wichita, Wichita, Kansas.

The Division of Clinical and Abnormal Psychology set the deadline of February 15 for the membership applications to be acted on by the Membership Meeting in September of each business year. Members of the Clinical Division of the former AAAP, former full members of the old Clinical Section of the APA, and former members of the Association of Consulting Psychologists obtain membership in the Division of Clinical and Abnormal Psychology on the basis of a "grandfather clause", after submitting their application blank. Some to whom this clause applies have apparently assumed that their membership is automatic. On the contrary, their membership is automatic only after they have submitted their application blank, thereby expressing their wish to make use of the rights the "grandfather

clause" gives them. Application blanks are available from, and should be mailed to, Division of Clinical and Abnormal Psychology, American Psychological Association, Dr. David Rapaport, Secretary, Austen Riggs Foundation, Stockbridge, Massachusetts.

The *Division of Counseling and Guidance Psychologists* will issue three News Letters during 1948-49. Members of the Division who wish to submit news items should send them to Dr. Hugh M. Bell, Department of Psychology, Chico State College, Chico, California.

Saul B. Sells, from the Office of Price Administration, has joined the staff of the department of psychology, USAF School of Aviation Medicine at Randolph Field, Texas.

The present military and civilian professional staff of the Department of Aviation Psychology, in addition to Dr. Sells, includes Lt. Colonel Jack Buel, Captain Robert B. Payne, Captain Frank Killian, Dr. John M. Wellman, Mr. Bart B. Cobb, and S/Sgt. Gilbert C. Brown.

Several Civil Service vacancies for Research Psychologists, P-2 to P-7, exist in the department. For further information write to: The Commandant, USAF School of Aviation Medicine, Randolph Field, Texas, ATTN: Chief, Department of Psychology.

For National Research Council fellowships in the natural sciences, and joint fellowships in the natural and social sciences which are supported by a grant from the Carnegie Corporation, applications must be filed before February 1, 1949. Fellows are required to devote their entire time to advanced study and research for a period of two years; tenure begins on July 1, 1949. The PhD (or equivalent) and unusual talent for research and investigation are expected. The annual stipends range from \$2500 to \$5000. Requests for application blanks and additional information should be addressed to the Natural Sciences Fellowship Board or to the SSRC-NRC Fellowship Board, National Research Council, 2101 Constitution Avenue, Washington 25, D. C.

For Social Science Research Council training fellowships, applications are accepted at any time and considered at intervals of about three months. SSRC offers predoctoral and postdoctoral fellow-

ships to men and women who have demonstrated exceptional aptitude for research and who wish to obtain more advanced research training than that which is provided in the usual PhD program. Fellows will normally receive support for full-time work for about a year. The stipend is not fixed, but dependent on circumstances. Apply to Dr. Elbridge Sibley, Social Science Research Council, 726 Jackson Place N. W., Washington 6, D. C.

Circulars describing the SSRC's offerings of Grants-in-Aid of Research, Area Research Training Fellowships, and Travel Grants for Research in World Areas can also be obtained from the above address.

Positions in United States Public Health Service. A competitive examination for appointment in the Regular Corps of the United States Public Health Service in the grade of Assistant Scientist (Psychologist) (equivalent to the Army grade of First Lieutenant) and Senior Assistant Scientist (Psychologist) (equivalent to the Army grade of Captain) will be held sometime in the future. This is a preliminary announcement to inform psychologists regarding the professional opportunities of the Public Health Service.

The Regular Corps of the United States Public Health Service is a commissioned officer corps composed of members of the various medical and scientific professions. Officers are commissioned in various professional categories such as medical, dental, scientist, engineering, etc., according to their training and experience. Psychologists are included in the Scientist category of the Service. A Regular Corps appointment provides an opportunity for a qualified psychologist to pursue his profession as a life career in the Service. Assignments are made with consideration of the officer's preferences, abilities, and experience. The coming examinations will be primarily for clinical psychologists, broadly defined, and successful applicants will be assigned to positions which will probably involve research, diagnosis, and therapy. Positions in clinics, hospitals, penal institutions, research programs or administrative work may be available.

Entrance pay (exclusive of benefits) for the Assistant grade with dependents is \$3811 per year and for the Senior Assistant grade with dependents is \$4351 per year. Provisions are made for promotions at regular intervals up to and including the grade of Senior

Scientist (Army grade of Lieutenant Colonel) and for selection for promotion to the grade of Scientist Director (Army grade of Colonel) at \$8551 per year. The usual military rules govern benefits, retirement, leave, etc.

All applicants for the Assistant grade must have a PhD and seven years beyond high school of educational or professional training or experience. Examinations may be taken within nine months of meeting the requirements. Application forms and additional information may be obtained from Public Health Service Hospitals and Districts Offices or by writing to the Surgeon General, U.S. Public Health Service, Washington 25, D. C.

A number of positions for civilian clinical psychologists have been made available in Army General Hospitals. These positions are under Civil Service and are in grades from P-3 to P-5, depending upon the position. Applications are invited from qualified civilians and should be submitted to Lt. Col. Charles S. Gersoni, Chief, Clinical Psychology Branch, Neuropsychiatry Consultants Division, Office of The Surgeon General, Department of the Army, Room 2C474, The Pentagon, Washington, D. C.

Unless stated otherwise, the positions below are probably in the department of the appointing officer.

Counselor, as soon as possible, rank assistant director of personnel and associate professor (if PhD), man, PhD or within one year, 30-45 years, to counsel students and veterans and teach. Salary \$4500. Apply to Dr. Lysle W. Croft, University Personnel Office, University of Kentucky, Lexington, Kentucky.

Teacher for second semester, rank dependent on education and experience, man or woman, preferably single, no age limit, MA or better, to teach experimental and general psychology. Salary dependent on experience (\$1800 to \$3300 for nine months). Apply to Dr. Kenneth H. Thompson, Acting Dean, Berea College, Berea, Kentucky.

Clinical psychologist, rank up to associate professor, University of Louisville School of Medicine, man or woman, PhD, to work as chief psychologist at the Louisville Mental Hygiene Clinic and Child Study

School. Basic salary \$6,000 with opportunities for teaching or consultation work. Apply to Dr. Spafford Ackerly, 610 S. Floyd, Louisville 2, Kentucky.

Clinical psychologist, as soon as possible, rank head of psychology department, man or woman, under 40, MA or better, one year or more experience, to supervise psychological work in institution for delinquent and dependent children. Salary \$3600 and maintenance. Apply to Supt. H. V. Bastin, Louisville and Jefferson County Children's Home, Anchorage, Kentucky.

Clinical psychologist, as soon as possible, rank open, man or woman, 25 to 35 years, PhD preferred, some experience, to counsel university and younger students. Salary \$4500. Apply to Dr. Jess Spirer, Coordinator, University Guidance Center, University of Miami, Miami, Florida.

Clinical psychologists, as soon as possible, rank resident psychologist, men or women, no age limits, PhD preferred, at least one year of experience, to perform usual duties of clinical psychologists in a number of New Jersey institutions; opportunities for research. Salaries to be arranged. Apply to Dr. Lloyd N. Yepsen, Department of Institutions and Agencies, Trenton, New Jersey.

Junior psychologist, as soon as possible, rank Psychologist 3-A in Ohio Division of Mental Hygiene, man or woman, no age limits, MA, one year experience, for psychological testing in rural clinic. Salary \$3550. Apply to Miss Sue Poch, Upper Miami Valley Guidance Center, Piqua, Ohio.

Teacher of industrial, about February 1949, rank open, man, under 40, at least MA plus PhD candidacy, experience in business and industry, opportunity for consulting work probable. Salary \$3500. Apply to Dr. Blake Crider, Department of Psychology, Fenn College, Cleveland, Ohio.

Clinical psychologist, as soon as possible, rank assistant professor, man preferred, age not under 25, PhD, with a year's experience in clinical practice, preferably more. Salary \$4000 for ten months. Apply to Dr. Arthur G. Bills, Department of Psychology, University of Cincinnati, Cincinnati, Ohio.

Convention Calendar

AMERICAN PSYCHOLOGICAL ASSOCIATION

September 5-10, 1949; Denver, Colorado

For information write to:

Dr. Dael Wolfe, American Psychological Association
1515 Massachusetts Avenue, N. W., Washington 5,
D. C.

MIDWESTERN PSYCHOLOGICAL ASSOCIATION

April 29-30, 1949; Drake Hotel, Chicago, Illinois

For information write to:

Dr. Claude E. Buxton, Department of Psychology
Northwestern University, Evanston, Illinois

EASTERN PSYCHOLOGICAL ASSOCIATION

April 8-9, 1949; Springfield, Massachusetts

For information write to:

Dr. Harold Seashore, Psychological Corporation
522 Fifth Avenue, New York 18, New York

WESTERN PSYCHOLOGICAL ASSOCIATION

About June 20, 1949; Eugene, Oregon

For information write to:

Dr. Lester F. Beck, Department of Psychology
University of Oregon, Eugene, Oregon

AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

December, 1949

For further information write to:

Dr. John M. Hutzel, A.A.A.S.
1515 Massachusetts Avenue N.W.
Washington 5, D. C.

1. How to become a Fellow in a division: If you are an Associate in the APA, apply to the secretary of the division of your choice. Use addresses of secretaries found on inside front cover. Applications for 1949 must be submitted by the first of July. You will be accepted or rejected in September, 1949. No one can attain the status of Fellow who has not been an Associate for at least one full year. You cannot become a Fellow-at-large.

2. How to become a Fellow in a division: If you are already a Fellow in the APA, apply to the secretary of the division, stating that you are already a Fellow. Consult March and April 1948 American Psychologists for division requirements.

3. How to become an Associate of a division: Apply to the secretary of the division. Consult March and April 1948 American Psychologist for requirements. You must be an Associate of the APA at the time of application.

4. How to become an Associate of the APA: Apply for application forms to the APA office or to the chairmen of large departments. Two copies, each signed by an endorser, are required. Applicants without a PhD in psychology must submit transcripts of graduate work. Associates are accepted or rejected in March of 1949. February 15 is the deadline for applications.

5. How to become a Student Affiliate of the APA: Apply for application forms to the APA office, or to the chairmen of large departments.

6. How to apply for certification by the American Board of Examiners in Professional Psychology: Write for the necessary forms to the secretary, Dr. John G. Darley, Department of Psychology, University of Minnesota, Minneapolis 14, Minnesota.

7. How to secure missing issues of APA journals: Address the APA office.

8. How to obtain Placement System forms: Write to the APA office. APA membership is not required; however, employers list only psychological positions with the APA, so that placement of other than psychologists cannot be made. Psychologists who are reaching a definite stage in their training, such as finishing a year's internship or completing the PhD, should register several months before the end of their training.

9. How to submit papers for the APA program for 1949: Consult the March, 1949 American Psychologist. The deadline will be about April 15th.

Industrial Psychology

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By MILTON L. BLUM

Assistant Professor of Psychology, College of the City of New York

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Washington University School of Medicine*

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The first edition of this text, published in 1934, has been out of print for some time. The new edition is in every respect virtually a new book, partly because of the great developments in this field in the past fifteen years, and partly as a result of the author's extensive practical experience in industrial relations in recent years. Among the new topics treated at length in the revised edition are Vocational Aptitudes and Adjustment, Employment Procedures, The Customer's Side (of sales and advertising), and Psychological Factors in Marriage. *Applied Psychology* is a practical, realistic, and thoroughly interesting text.

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MILITARY UTILIZATION OF PSYCHOLOGISTS DURING WORLD WAR II¹

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THE following information and conclusions were drawn from the analysis of a questionnaire mailed to all members of the American Psychological Association. This questionnaire accompanied the one for the biographical entries of the 1948 Directory of APA members and included questions concerning the wartime services and activities of the members. A total of 1561 questionnaires was abstracted from all those received by the central office of the APA. This represents about 30% of the total membership of the APA, and we estimate that our sample contained between 80 and 90% of the appropriate population: psychologists who had been in military service or who had worked as civilians for some branch of the Military Establishment, either in government research, government-sponsored research, or government work other than research. These questionnaires were submitted to the Research and Development Group, Logistics Division, of the Army General Staff for analysis in the Scientific Manpower Section. The information tabulated included: (a) highest academic degree attained, (b) year of highest degree, (c) pre-war work status, (d) post-war work status, (e) principal civilian work during the time of war, (f) method of entry into military service, (g) branch of the military service entered, (h) type of membership in the APA, and (i) degree of utilization of professional training during military service. The "degree of utilization" was evaluated in terms of responses to the following numbered scale, and each person responding was asked to check the sentence which seemed best to describe his utilization.

¹ The authors wish to express their gratitude to Dr. D. M. Delo, Chief of the Scientific Manpower Section, for his stimulation and cooperation in making this study possible. The interpretations and recommendations presented here do not necessarily reflect any official opinions of the National Military Establishment.

² On leave of absence from the University of Chicago.

1. Full utilization in primary field and at proper level of competence while in military service.
2. Utilization in primary field for at least half of the time spent in military service.
3. Utilization in a collateral field of scientific training or experience throughout most of military service.
4. Utilization in either primary or collateral fields during a relatively short portion of military service.
5. Utilization in neither primary nor collateral fields at any time during military service.

In addition to the information obtained from responses to the types of items described above, each person who served in the military was also requested to present suggestions for the better utilization of psychologists in time of national emergency.

The data from the 1561 questionnaires were tabulated and analyzed by means of IBM equipment, and cross-percentages were computed between all the factors described above.³ The analyses of the resulting contingency tables were based on the following general questions. To what extent was use made of the professional training and skills of psychologists in military service during World War II? What factors were related to the utilization of psychologists' professional skills? In what capacities did civilian psychologists serve in government activities or government-sponsored work during the war, and what factors were related to their use in their capacities? What factors were related to the entrance into each of the several branches of military service? What is the present work status of the psychologists sampled, and what factors appear to be related to any trends in occupational shifts? What recommendations should be made for better organization and utilization of professional psychologists in the advent of another national military emergency? These questions were the major ones studied in the present analysis.

³ We are indebted to Mr. Eugene Zander and to Dr. Paul D. Gard for the tabulations and calculations involved in obtaining the data for this study.

FACTORS RELATED TO THE UTILIZATION OF PSYCHOLOGISTS IN THE ARMED FORCES

The contingency tables on which this analysis was based follow the form of Table 1. The percentage entry, in italics, represents percentage of row total. A study of the last row of Table 1 indicates that 46% of the 1168⁴ psychologists in military service judged that they were fully utilized in their primary field of specialization and at the proper level of their competence. When utilization categories 1 and 2 are combined, we find that 72% of the psychologists felt that their professional training and skills were utilized for at least half of the time they were in

Branches of Military Service. Of the total number of psychologists in Military Service (this sample), 93% were in either the Army, Navy, or Air Force. No important differences were found between these three major services in terms of the proportion of each who felt their services were satisfactorily used. However, of the 292 psychologists in the Navy, 9% judged that they had not been utilized in their primary or collateral fields of training to any extent. This percentage is relatively higher than those for the Army or Air Force.

Pre-War Fields of Work. The work of the psychologists in our sample, prior to the war, was classi-

TABLE 1

Degree to which psychological training was utilized by the several branches of the military forces, as reported by 1168 members of the APA

of the APA

1,000 members

BRANCH OF MILITARY SERVICE	DEGREE OF UTILIZATION DURING MILITARY SERVICE										Total N	Percentage of Sample in each Service
	1 (Most)		2		3		4		5 (Least)			
	N	Per cent	N	Per cent	N	Per cent	N	Per cent	N	Per cent		
Army.....	217	45.0	151	31.3	55	11.4	42	8.8	17	3.5	482	41.3
Air Force.....	135	42.6	93	29.3	45	14.2	34	10.7	10	3.2	317	27.2
Navy.....	139	47.6	58	19.9	48	16.4	20	6.9	27	9.2	292	25.0
Marines.....	3	25.0	1	8.3	5	41.7	0		3	25.0	12	1.0
Coast Guard.....	2	33.3	0		2	33.3	1	16.7	1	16.7	6	0.5
Merchant Marines.....	6	66.7	2	22.2	0		0		1	11.1	9	0.8
WAC.....	6	54.5	1	9.1	2	18.2	1	9.1	1	9.1	11	0.9
WAVE.....	14	53.9	3	11.5	5	19.2	3	11.5	1	3.9	26	2.2
SPAR.....	0		0		0		1		0		1	0.1
U. S. Public Health Service.....	10	83.4	1	8.3	1	8.3	0		0		12	1.0
Total.....	532	45.7	310	26.5	163	13.9	102	8.7	61	5.2	1168	100.0

military service. The data from the study by Britt and Morgan agree with this conclusion (*Amer. Psychologist*, 1946, 1, 423-437).

When comparisons are made with the results on other groups of scientific personnel in military service, it is found that psychologists fared better than most. Table 2 shows that the percentage of psychologists falling in utilization categories 4 and 5 was smaller than for any of the other science groups compared here.

⁴ The 1168 total does not, of course, represent the total number of psychologists who served in the Armed Forces, although it appears to be a satisfactory sample of that population. Actually, 1170 appeared in the sample, although 2 were not represented in several tables due either to omitted responses on certain inventory items or to omissions in the IBM processing.

fied as: academic, clinical, industrial, government, student, unemployed or retired. It was found that 89% of the psychologists in military service were in academic or government positions or were graduate students before entering the Armed Forces. Relatively few came from clinical or industrial work. It is to be presumed, however, that many of those in academic work were teaching in the fields of clinical or industrial psychology. Those who came into service from the academic field were utilized at their highest level of competence more frequently than were government workers or students. Those who had worked as clinical psychologists appeared to have been more satisfactorily used than any other single group, and relatively fewer of them were used in totally non-psychological work. The graduate

students were of troop age and consequently were placed in combat units more frequently, thus lowering their utilization in professional pursuits. Although there were only 36 industrial psychologists in this sample, their utilization at highest competence was less frequent than for any other experienced group and was on the same level as graduate students. This observation is tempered by the fact that more industrial psychologists were utilized at top competence for at least half the time of their military service.

TABLE 2

Comparison of different scientific groups in terms of utilization

	N	DEGREE OF UTILIZATION DURING MILITARY SERVICE				
		1 (Most)	2	3	4	5 (Least)
		Per Cent	Per Cent	Per Cent	Per Cent	Per Cent
Geologists.....	695	5.0	21.6	22.3	13.5	36.2
Physicists.....	606	53.3	15.8	2.4	23.0	5.5
Chemists.....	4043	24.0	12.6	20.3	15.8	27.3
Psychologists.....	1168	45.7	26.5	13.9	8.7	5.2

Level of Academic Training. The relations between highest academic degree attained and degree of professional utilization in military service were analyzed in similar fashion to the data in Table 1. In our sample there were 47% with the PhD, 47% with the MA, and 6% with the AB. Thus, those holding a postgraduate degree constituted 94% of the psychologists in service. Of those most effectively utilized (category 1), 52% held PhD's and 44% held MA's. Conversely, of those whose training was most ineffectively utilized (category 5), 33% held PhD's and 59% MA's. These data indicate the relatively higher average utilization of those psychologists with the more advanced training. Yet, of those holding only the AB, as many as 70% were utilized at what they considered a satisfactory level for at least one-half their time in service.

When the data were analyzed to determine the relations between academic degree attainment and the branch of service entered, it was found that the Navy received considerably more psychologists with PhD's than did the other services in terms of the total number of psychologists in each of the services. The Navy received fewer psychologists holding only the AB than did the other two major services. These data corroborate the results presented by Britt

and Morgan. This loading of PhD's in the Navy appears to bear no relationship to the relative effectiveness of total utilization within that service (as shown in Table 1), although one might expect such a relationship on the basis of the higher educational level.

In regard to utilization of PhD psychologists, it is of interest that 59% of them entered service from academic work. It was previously indicated that the academicians were in general well utilized. These interrelationships cannot be interpreted causally.

Closely related to academic background and highest degree held is the factor of Associate or Fellow status in the APA. Of the 147 Fellows in Military Service, 64% were utilized at highest levels, and of the 1021 Associates, 43% were utilized at highest levels of proficiency. Of those psychologists used to minimal extent professionally, 97% were Associate members and only 3% were Fellows of the APA.

Method of Entry Into Armed Services. It was found that those psychologists best utilized at their judged level of professional competence came into Military Service through direct commission relatively more often (49%) than by voluntary enlistment (15%), from the Reserve (8%), or by the draft (28%). The Reserves and direct commissions fared best. Even among those drafted or voluntarily enlisting, there was an appreciable tendency for their training and experience in psychology to be put to relatively good use. Of the Reserves 57%, and of those directly commissioned 31%, held the PhD, which in itself shows the interrelations between training, effective utilization, and method of entry into service. It should be noted that 18% of the PhD's in this sample were drafted into the military services.

Those directly commissioned came more often from the academic profession and those drafted or voluntarily enlisting tended in the main to have been students immediately prior to induction. Fellows of the APA tended to enter the services by way of direct commission (73%) or reserve status (13.5%), while the Associates entered more frequently through the draft.

FACTORS RELATED TO THE WARTIME ACTIVITIES OF CIVILIAN PSYCHOLOGISTS WORKING FOR MILITARY SERVICES

In addition to the psychologists in the military services, 518 members of the APA worked for the Military Establishment in civilian capacities. It

was found that 44% of this group were doing government research, 39% worked in non-research capacities (presumably in personnel or administration), and 17% were performing government-sponsored research. These civilian psychologists before the war were mainly engaged in the academic profession (52%) or as graduate students (27%).

Of the relatively small number of clinical psychologists who worked for the military in civilian capacity during the war (28), the majority were not engaged in research (71%). Further analysis of the data revealed that 71% of the civilian psychologists held the PhD and 24% the MA; 74% of the Fellows of the APA included in our study were engaged in government or government-sponsored research as compared with 54% of the Associates.

FACTORS RELATED TO BRANCH OF MILITARY SERVICE ENTERED BY PSYCHOLOGISTS

A proportionately larger number of psychologists entered the Navy from the academic profession: 44% as compared with 34% for Army and 32% for Air Force. Also, as pointed out before and related to this proportion, the Navy received proportionately more PhD's in psychology. The Air Force received proportionately more graduate students: 52% compared to 40% for Army and only 32% for Navy. Only 7% of the psychologists entering military service went into branches other than Army, Navy or Air Force; these other services include Marines (13), Coast Guard (6), Merchant Marine (9), WAC (11), WAVE (26), SPAR (1), and U. S. Public Health (12).

Although there were 1.4 times as many WAC's in service as there were WAVES, our data show that more than twice as many women psychologists went into the WAVES.

The composition of the major services in terms of type of APA memberships indicates that, proportionately to the number of psychologists in each service, there were more than twice as many Fellows in the Navy as in the Army. Concerning the relationships between methods of entry and branch of service, a disproportionate number entered the Navy by means of direct commission; a disproportionate number entered Air Force by voluntary enlistment; and a disproportionate number entered the Army by way of the draft.

FACTORS RELATED TO THE PROFESSIONAL WORK STATUS OF PSYCHOLOGISTS

A comparison was made between the pre-war and post-war work status of the psychologists in our total sample shows that three times as many of this group are now engaged in clinical work as was the case prior to the war. The proportion of this group recently employed in industry has more than doubled since the pre-war period. There has been only a slight increase in the proportion of this group going into academic work, and there has been a slight decline in the proportion employed by the government. Most of the supply for these increases has been from the group previously working as graduate students. The students have not, however, entered the major fields in proportion to their pre-war size; the degree to which these shifts in work are attributable to war work and experiences and the extent to which they reflect present employment opportunities cannot be judged.

More detailed analyses of the present work status of these psychologists were made in terms of highest academic degrees attained and type of APA membership. It is obvious that there would be a strong contingency between academic work and the holding of the PhD. It was further found that among clinical psychologists, the PhD is more commonly held by those in private practice and those working in private clinics or guidance centers than for those in state, municipal, or federal institutions or working as school psychologists. These latter most commonly hold the MA as the highest degree earned. The psychologists in industry more often hold the PhD than a lower degree. Those non-clinical psychologists working in the government more commonly hold the PhD if engaged in research but not if engaged in personnel or administrative capacities. At the time our sample was obtained, almost 75% of the Fellows of the APA were in academic work, as compared with 40% of the Associates.

OPINIONS OF PSYCHOLOGISTS IN SERVICE

In addition to the items tabulated above, the questionnaire included a blank space within which those sampled were asked to state their recommendations for better organization and utilization of psychologists during any future national military emergency. These qualitative responses were analyzed; a total of 407 had made cogent recommendations.

The largest number of those making recommendations suggested that psychologists within the Armed Forces should be assigned to units and to jobs in accordance with their levels of training and particular fields of specialization. Also a considerable number suggested that a separate corps or unit (such as the Medical Corps) should be established for psychological services. The military problems raised by this recommendation are not easily solved, however. A further recommendation frequently made was to the effect that the military should be made more aware of the nature of psychologists' work and their skills. This latter suggestion would, of course, help in the proper assignment of psychologists to their duties and would also help considerably in the more effective planning of needs and uses of psychologists in scientific manpower mobilization.

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The data for this survey were gathered from 1561 psychologists who were in military service or government work connected with the military during World War II.

General Results of the Survey. A large proportion of the members of the APA were in military service and in general they felt their professional training and skills to have been well used; they were more favored in this regard than most other groups of scientists. It is to be recalled that they had an active office in Washington, D. C. for recommending personnel action, and also that there were several relevant communications made available to psychologists through notes and by articles in the *Psychological Bulletin*. These organized systems were designed to serve both the psychologists themselves and the armed forces who knew of their needs in specialized personnel. The psychologists in our sample of those in service came mainly from academic and government work as graduate students. Those from academic work more frequently held doctor's degrees; were more frequently commissioned directly; and were better utilized. Those relatively few who had been working as clinical psychologists were less often used in non-psychological work during their period of service than the other professional (non-academic) or student groups.

In general, there was a strong tendency for those with more advanced training to be used at the highest levels of technical effectiveness. There is, of course, a confounding of age with the factor of advanced training, those of less training being more

often of troop age and being used for non-technical manpower.

Those commissioned directly into the services were well utilized professionally as were those who came into service as reserve officers. These psychologists had attained higher levels of training. A relatively small but nevertheless appreciable number of PhD's were drafted (97).

There were at least 518 psychologists who worked at least parttime for the government as civilians connected with military activities during the period of the war. Only 49 of these were working in government service before the war.

The composition of the three major military services was not proportional to total supply in terms of the number for each service entering with different backgrounds of training. The Navy received more psychologists holding the PhD. Disproportionate numbers entered the Navy by direct commission, the Air Force by voluntary enlistment, and the Army by way of the draft.

Analysis of the past and present work status of the sample of psychologists indicated that large shifts in work status have been characteristic of the profession since before the war. Those who were graduate students prior to entry into service have not drifted to the several branches of the profession in the same proportions as before the war. Clinical and industrial work have shown the greatest increases, based on estimates from our sample of 1560.

Recommendations. Although the survey indicates that psychologists were on the whole effectively utilized during the war, there are nevertheless several suggestions which can be made for even more effective utilization in the event of another national military emergency.

The previously effective utilization of psychologists indicates that possibly an even greater number could be used in their technical capacities by the armed forces. There is a need for timely data accruing from continuous studies of supply and demand in relation to the overall plans of the National Military Establishment. Such studies should continue within the services and also by liaison with the central office of the APA. A committee of civilian psychologists has been organized for purposes of liaison between the APA and the General Staff of the Department of the Army.

In organized planning for mobilization, account should be taken of the relative lack of information on the part of the military about the services which

psychologists are equipped to give. This lack of information was decreased considerably during the last war, but there is still much to be done in this direction. The several school systems within the military organizations are giving information about these services, but such information has not as yet sufficiently wide audience of military officers to make them fully able to employ and classify psychologists.

Work simplification procedures should be carried out for every major psychological job in military work. The level of competence and area of specialization for each such job should be determined. Such job analyses would serve to minimize the use of highly trained and competent psychologists in the rather more routine types of military assignments and would aid a large number of psychologists more effectively to make their contributions to a war effort.

The widespread view among psychologists that a separate corps or unit be established for them, such as the Medical Corps, should be carefully evaluated.

It is recommended that a study be made to determine the type of organization to which psychologists might be assigned for maximal effectiveness and utilization of their skills.

Since so few women (20) were used as military psychologists in relation to the number in the APA (about 1750), it would seem desirable to make the federal and military organizations more aware of the ways in which the skills of women psychologists may be utilized.

In addition to the above recommendations that spring from analyses of military utilization of psychological personnel, it would appear desirable for more civilian psychologists to devote portions of their research time to problems of military worth. No encroachment on academic and research freedom is implied by this recommendation, but it is considered useful to continue pointing out the interest in and desirability of research in military psychology.

Received June 7, 1948

PERSONNEL METHODS IN BUSINESS MANAGEMENT

ROGER M. BELLOWS

Wayne University

BUSINESS management has increasingly sought aid from schools of business and from departments of psychology. This condition is reflected in requests by business for graduate students trained by internships in personnel methods as well as for special programs and institutes for business executives. Wayne University has developed during the past two years a unique department within its School of Business Administration—a department of personnel methods¹—to comply with these requests.

The department hopes to contribute to establishing the field of personnel management as a technology and a profession. At this time the field is only dimly defined and it is not well recognized. Psychology, as well as law, engineering, sociology, economics, accounting, and other areas, has much to contribute to personnel management. Personnel management is considered the technology of the maximum utilization of available manpower accompanied by maximum worker satisfaction.

The department of personnel methods has been organized and staffed to render service to industrial personnel management. A primary goal is to serve through training industrial personnel staffs. This is accomplished in several ways:

First, internship training in problems such as interviewing, selection, placement, turnover, job and employee evaluation, and employee counseling is provided for qualified graduate students employed part- or full-time within industrial or business establishments.²

¹ The staff of the department of personnel methods includes: Francis G. Armstrong (law, part time); M. F. Estep (business administration); Chester E. Evans (industrial psychology); E. B. Greene, (industrial psychology, part time); Claude Nemzek (educational psychology, part time); Don H. Palmer (industrial education); Edward T. Raney (industrial psychology); John H. Rappaport (industrial psychology, part time); John R. Richards (economics); Charles E. Scholl, Jr. (personnel management); Ronald F. Wilson (industrial psychology); Greydon Worbois (industrial psychology, part time).

² Industrial and business firms whose personnel department

Second, institutes are offered on such problems as job analysis, job evaluation, selection, supervisory training, employee evaluation, and morale problems. These accommodate personnel directors and their assistants with short programs that are specially developed upon request.

Third, cooperative programs of training are being conducted. The department provides training, approves qualified instructors, and assists in program development in personnel management phases of production management training programs. A training program at the Ford Motor Company is arranged by contract with Wayne University.

Fourth, the department publishes summaries of studies in personnel methods. In cooperation with the Michigan Industrial Training Council, an abstract publication, *Industrial Training Abstracts*, was developed. Issued quarterly, it is now in its second year. A variety of selected personnel and business journals, government publications, books, and a few papers from unpublished sources are abstracted in non-technical language. A portion of its coverage overlaps with that of *Psychological Abstracts*.

Fifth, another service offered is the survey and summary report of personnel practices utilized by various companies. Two such surveys have been completed. One was designed to determine current status of management policies, research and control pertaining to the several personnel activities in department stores across the country. Another was a minor study on the use of visual aids in sales employee training in the Detroit area.

Sixth, as a part of its service the department offers formal courses of instruction, student guidance in

employees are graduate students in the department of personnel methods include the Ford Motor Company, several divisions of the General Motors Corporation, Parke-Davis and Company, Packard Motor Car Company, Nash-Kelvinator Company, The J. L. Hudson Company, The Michigan Bell Telephone Company, The Detroit Edison Company. Some 70 graduate students are now enrolled.

minor research, and seminars. The number of separate courses listed and offered by the department has increased from four in 1945 (at that time offered in a business administration department) to the courses to be offered in the fall semester of 1948 which are listed below:

Business Occupations	Advanced Course in Personnel Training
Personnel Management I	Survey of Occupations
Personnel Management II	Current Research Publications
Supervisor-Employee Relations	Employee Communications
Selection Techniques	Employee Counseling
Interviewing Techniques	Wage Administration
Job Analysis	Time and Motion Study
Job Evaluation	Minor Problems in Personnel Research
Merit Rating	Personnel Management and the Labor Contract
Safety Administration	Legal Aspects of Labor Relations
Employment Stabilization Plans	Research in Personnel Management
Survey of Retail Personnel Practices	Experimental Design for Statistical Analysis
Attitude and Opinion Sampling in Business and Industry	Recruitment and Labor Market Analysis
Personnel Research Seminar	Techniques of Personnel Program Evaluation
Employee Motives and Incentives	Criteria of Employee and Supervisor Efficiency
Reports and Theses in Personnel Methods	Thesis Direction
Personnel Managerial Records and Controls	
Personnel Training	

Some advisory service is being rendered the University on student affairs, student counseling and placement, and job evaluation of university jobs.

The department has served the University by co-operating with the College and Professional Testing Programs of the American Institute of Accountants. Validity and norm data have been obtained on students majoring in the School of Business Administration's department of accounting with a view to establishing more effective counseling and selection tools for screening prospective students in this field. Information has been gathered and analyzed from two of the larger public accounting firms in Detroit.

Several general areas of problems encountered in industrial Detroit will require research of comprehensive scope, if the personnel methods area is to achieve full status as a scientific technology. Some of these are:

Job Evaluation. Reliability of data, overlap of so-called factors, weighting of factors, and validity considerations are of significance. In practice, job evaluation is conducted without regard to controls that psychologists have used routinely in the measurement of individual differences. Criteria for

evaluating factor ratings are hard to find. Most realistically, the going community pay rate for the jobs being evaluated is probably the best criterion available. Factor analysis techniques might be applied more frequently to job evaluation data with profit.

Criteria of vocational success. Obtaining basic criteria of success, especially in the area of executive employee audits and analysis, remains one of the most difficult and at the same time fundamental problems. Merit ratings, when used for criteria, are often not checked for reliability, yet other variables are appraised against them by correlation methods. Greater emphasis upon analysis and developments of criteria is indicated.

Evaluating training. The development and evaluation of tools for appraising training programs in business and industry is a timely and realistic problem. Application to industrial training of the several workable rules of learning and of techniques for measuring transfer developed by the educational psychologist would likely be profitable if done on an evaluative, experimental basis.

Personnel cost accounting. To be meaningful in business and industry, new methods in personnel management must show, in dollars and cents, an increase in profits to the firm. Under present experimental design it is rarely possible to analyze costs in this way. The need for new statistical methods and for collaboration with cost control and analysis specialists is evident.

Biomechanics. Arrangement of the work situation by psychological job analysis, to attain maximum output with least effort, is a goal for which specialists from many fields, and with as many different approaches, are striving. This is an area in which psychologists may render real service by co-operative effort and planning.

CONCLUSIONS

Several personnel methods problems present a challenge not only to the industrial psychologist but to professionals in the field of economics, law, and sociology. Solution to many of these problems lies in well-coordinated action that cuts across conventional "field" boundary lines.

Personnel methods may contribute approaches to sound personnel procedures through training industrial staffs in research techniques, with appropriate checks on the goodness of the tools used.

Received March 18, 1948

WOMEN IN AMERICAN PSYCHOLOGY: PUBLICATIONS

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BRYAN and Boring in their study of women in American psychology have suggested that the male psychologists probably do four-fifths of the research and writing in American psychology. If there are twice as many men as women in the profession and a man averages twice as much research as a woman, then the men would do four-fifths of the research and writing (3, p. 17). The present study¹ undertakes to check that hypothesis. Bryan and Boring used American Ph.D.'s on whom the degree was conferred in 1921-1940. The present study considers the publications of all American psychologists whose work is cited in *Psychological Abstracts* for 1939 (Vol. 13). That year was chosen as the most recent "normal" year before World War II changed professional habits.

The 1939 Yearbooks of the American Psychological Association and the American Association for Applied Psychology were used to identify American authors. Any author who was a member of one or both of these societies at that time was assumed to be American for the purposes of this investigation. To be counted, the original publication had to be more than two pages long. Anything labelled "abstract" was omitted. The accepted publications were classified according to type; e.g., book, comment, etc., and also according to the fourteen divisions appearing then on the cover of *Psychological Abstracts*. The sex of each author was determined either from his given name or by correspondence with the individual himself. In the case of joint publications, each author was given credit for a fractional publication—the size of the fraction being the reciprocal of the number of authors.

The matching of the author index of Volume 13 of *Psychological Abstracts* and the Yearbooks of the two

societies yielded a list of 784 authors of publications meeting the criterion—633 men and 151 women. These authors produced 1189.4 publications, 994.9 (83.6%) of them by men and 194.5 (16.4%) by women. Thus Bryan and Boring's suggested 4:1 ratio is approximated, since 994.9/194.5 is 5.12.

TABLE 1

Amount of professional writing done by psychologists in 1939

For persons who were members of the American Psychological Association or of the American Association for Applied Psychology in 1939 and whose publications were cited in *Psychological Abstracts* for 1939.

NUMBER OF PUBLICATIONS	MEN	WOMEN	TOTAL
	%	%	%
0.0- 0.9	20.8	27.0	22.2
1.0- 1.9	47.2	51.5	48.5
2.0- 2.9	20.8	11.9	19.2
3.0- 3.9	5.6	6.6	5.9
4.0- 4.9	3.3	1.4	3.0
5.0- 5.9	2.0	0.7	1.8
6.0- 6.9	0.5	0.7	0.5
7.0- 7.9	0.5	—	0.4
8.0- 8.9	0.2	—	0.1
9.0- 9.9	0.2	—	0.1
10.0-10.9	0.2	—	0.1
Number	633	151	784
Mean	1.73	1.46	1.68

Table 1 shows the amount of professional writing by individual psychologists in 1939. It will be seen from this table that approximately two-thirds of the psychologists who publish at all publish less than two full articles per year regardless of sex. The distributions of the male and female contributions are of the same general shape with the exception of the tail produced by the six men who published more than seven articles each. This holds true in spite of the fact that the women are outnumbered by the men 4.2 to 1 in this investigation. Although the mean number of publications per man (1.73) is slightly higher than that per woman (1.46), it seems

¹ This is one of a series of investigations on the professional problems of women in American psychology conducted under the direction of Alice I. Bryan and Edwin G. Boring with financial assistance from the Committee on Graduate and Professional Training of the American Psychological Association.

reasonable to conclude that a publishing woman publishes as much as a publishing man. The difficulty for women seems to lie in getting over the publication threshold.

The classification of the accepted publications according to the fourteen divisions appearing on the cover of the *Psychological Abstracts* yielded the sort of information we expect from what we know about the interests and employment of male and female psychologists. Women are most often employed in school systems, clinics, guidance centers and custodial institutions. They tend, of course, to do most of their writing about problems related to their work. Consequently Childhood and Adolescence shows a very significant difference in favor of the women (C.R. = 4.73). The majority of men, on the other hand, were employed by colleges and universities, with school systems running a poor second. Their interests are more "scientific," if that term be used with the connotation given it by the physical sciences. The significant differences in favor of the men, therefore, appear in General (C.R. = 2.53), Motor and Glandular Responses (C.R. = 2.46), and Learning, Conditioning, and Intelligence (C.R. = 2.43).

The differences between the sexes in these four divisions are significant whether one considers the number of authors or the number of publications. If one considers only the number of publications, however, there are also significant differences in favor of the men in Psychoanalysis, Dreams and Hypnosis (C. R. = 2.50), and Receptive and Perceptual Processes (C. R. = 2.27). The differences appearing in the remaining eight divisions are due to the varying degrees of popularity of the subject-matter rather than to differences between the sexes.

Inquiry was made into the extent to which male and female psychologists specialize, i.e., confine their publications to one division. Since we know that most psychologists do not publish more than once a year (Table I), we are not surprised to learn that those people who contributed to more than one paper in 1939 represent only 44.3% of the publishing psychologists for that year. The results of this inquiry indicate that those women who contribute to more than one publication per year are slightly more specialized than their male counterparts, and that, regardless of sex, over half of those people who

participate in more than one publication per year spread their efforts over two or more divisions.

The outstanding fact obtained from the classification of publications according to type is that, regardless of sex, the majority of American psychologists who publish write articles. Although the differences are statistically insignificant, men write proportionately more monographs and comments than women; women write proportionately more books and reviews, and compose more bibliographies and tests, than men.

CONCLUSIONS

1. Males in 1939 were responsible for 83.6% of the publications by American psychologists. Women contributed only 16.4%.

2. Regardless of sex, approximately two-thirds of the American psychologists who published were responsible for less than two full articles per year.

3. American women psychologists who published, published as much as did men who published. Women seem to experience difficulty, however, in getting over the publication threshold.

4. Sex differences exist with respect to four of the fourteen accepted divisions of psychological literature whether one considers the number of authors or the number of publications. Childhood-and-adolescence was "feminine"; Learning-and-intelligence, General, and Motor-and-glandular-responses were "masculine."

5. Of those American psychologists who participated in the publication of more than one paper per year, more than half spread their efforts over two or more fields. The women in this category were slightly more specialized than the men.

6. The most usual type of publication was the article.

REFERENCES

1. BRYAN, A. I., and BORING, E. G. Women in American psychology: prolegomenon. *Psychol. Bull.*, 1944, **41**, 447-454.
2. BRYAN, A. I., and BORING, E. G. Women in American psychology: statistics from the OPP questionnaire. *Amer. Psychologist*, 1946, **1**, 71-79.
3. BRYAN, A. I., and BORING, E. G. Women in American psychology: factors affecting their professional careers. *Amer. Psychologist*, 1947, **2**, 3-20.

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A BIBLIOGRAPHY ON CAREERS IN PSYCHOLOGY: II

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SINCE practically all of the occupational and professional material of interest to students of psychology and to counselors is published as journal articles on various, and often limited, aspects of the general problem, it is somewhat difficult for those students who are developing an interest in psychology to get an overall view of the occupational opportunities open to them and the professional training demanded of them. To make somewhat more certain that those who are interested will find the information they seek, the present writer has published a bibliography (19) of 157 titles that included publications that are occupationally and professionally significant. Since the appearance of this first bibliography, many additional articles have been published which are summarized and classified here.

A large number of the references listed here were published during 1947 or near the close of 1946. Of the 54 references, 4 appeared in January 1948, 37 in 1947, 12 in 1946, and 1 in 1945. Due to changes in editorial policy, THIS JOURNAL is now the best single source to consult for information of an occupational and professional nature. Prior to 1947, the *Journal of Consulting Psychology* was the best single source for information of this type.

Publications of General Interest. The future growth of psychology is discussed in an article by Wolffe (50). Several references of general interest discuss the status of psychology as a profession. Hilgard *et al.* (24) raise the question: Who is a psychologist? Armstrong (2) discusses the problem of defining the profession of psychology. Gregg *et al.* (22) inquire into the nature and range of psychology, the purposes of psychology in an ideal university, the prerequisites for serious students of the subject, and the value of psychology in the professional schools. The opportunities open to negroes in several fields of psychology are presented by Bayton (5). A general account of current trends in psychology is found in Dennis (17), and of current trends in experimental psychology in Skinner (45).

The School Counselor. The five basic vocational skills needed by counselors are discussed by Arnold (3). The role of the high school counselor, the

knowledge and skills he needs, his background training and other desirable qualifications are delineated by Super (47). Zeran (54) lists the responsibilities and duties of the counselor and discusses some of the guidance problems found in schools. A brief account of the nature of student counseling is presented by Williamson and Foley (49). Bell (6) gives the results of his survey of the types of counseling and guidance courses offered by graduate schools and the qualifications of the instructors. He also presents a list of graduate schools, according to geographic area, that grant master's and doctor's degrees with a major in guidance and counseling. The need for, and some of the problems involved in, the certification of counselors is the topic of Landy's (30) article.

Child Guidance. Fredericksen (21) presents the results of an extensive survey concerning the desirable qualifications for child welfare workers employed by public and private child welfare agencies in the various states. The article also presents some data on the number of people so employed and the median salary paid three years ago. Comments on undergraduate and graduate training are included. The data are based on questionnaire reports and are presented from the point of view of a social worker. A general account of the development and present status of child psychology may be found in Sears (43).

Clinical Psychology. Judging from the titles in this bibliography, psychologists are at present more concerned about clinical psychology than about any other field. Nineteen of the 54 titles listed here deal with clinical psychology. An excellent discussion of clinical psychology of interest to students is presented by Kelly (28). Some of the personal characteristics generally considered essential for clinical work are listed by Rosenzweig (41). He also discusses the clinical psychologist's outlook and the types of methods and procedures he employs. A general discussion of psychotherapy is found in Rogers (40). Hutt (26) presents an analysis of the duties performed by clinical psychologists in the army. Kelly (27) reports on a cooperative research

project, sponsored by the Department of Psychology at the University of Michigan, on the selection of clinical psychologists. Challman (13) gives an account of the cooperative organization and the clinical work done at the Winter VA Hospital, the Menninger Clinic and Foundation, and the University of Kansas. This article lists the psychologists employed, indicates their division of labor, lists the types of tests they employ, the facilities available, and the research projects in progress.

The relationship of the clinical psychologist to other professional workers is the subject of a number of articles. A somewhat general discussion of the relationship of psychology and psychiatry is presented by Menninger (35). Clark (15) writes from the point of view of the psychiatrist on the contributions of the psychologist and the psychiatrist. The contributions of the clinical psychologist to the physician are presented from the physician's point of view by Hawley (23). The role of the psychologist in the psychiatric hospital is presented by Cheney and Strongin (14), and in the VA mental hygiene clinic by Campbell (12).

Personnel Work. The reader who is interested in personnel work will find the two books written by Darley and Berdie (16) and by Smythe (46) particularly useful. The two chapters by Flanagan (20) and by Morgan (37) in a recent publication on trends in psychology are also excellent. What is expected of college-trained personnel workers has been gleaned by Yarborough (53) from a survey of 46 employers.

Market Research and Advertising. A discussion of the work of a research director in an advertising agency is found in Wulfeck (52). For an account of the sample interview survey see Likert (32). The reader will find an excellent general account of the various phases of advertising and of the opportunities in the field in Rivers (39). Students of psychology who are interested in market research will be particularly interested in Rivers' (39) chapter on this subject.

Training of Psychologists. One-half of the publications listed in this bibliography deal exclusively with, or touch on the subject of training. Students who are about to begin their graduate training in psychology will find the table (1) listing scholarships, fellowships, and assistantships offered by American universities and colleges very helpful. The undergraduate student who is planning his college course with the view of majoring in psychology will find the

suggestions given by Gregg *et al.* (22) instructive. Foreign language requirements for the PhD are discussed by Bird *et al.* (7).

The training of clinical psychologists is the subject of more articles than all the other fields taken together. The report on the conference, chairmanned by Kubie (29), deals with various aspects of the training of clinical psychologists. Likewise the committee report prepared by Shakow *et al.* (44) is very detailed and specific in its treatment of the problems of training clinical psychologists. Sears (42) lists the clinical training facilities available in American universities in 1947. His list includes 40 institutions that offer graduate training in clinical psychology and also indicates the extent to which each has met the 13 criteria on which institutions are judged. Institutions recommended for the VA clinical training program are marked. Internship training in clinical psychology is discussed by Dosier (18) and by Holzberg (25).

Two articles describe the cooperative program in clinical psychology sponsored by the Menninger Clinic and Foundation, the Winter VA Hospital and the University of Kansas. These are by Challman (13) and the Menninger Foundation (34). An excellent account of the VA clinical psychology program may be found in Morgan (38). The training program established by the Medical Department of the Army is outlined by Ullmann (48).

The training of personnel workers is discussed very adequately by Darley and Berdie (16) and by Smythe (46). The short-term training program in client-centered counseling given at the University of Chicago is outlined by Blocksma (9). Fredericksen (21) makes some comments on undergraduate and graduate training for child welfare workers in public and private agencies. The extra-psychological training considered essential for success in industrial psychology and other applied fields is discussed by McQuitty (33).

Certification and Placement. Some certification problems are discussed by Hilgard *et al.* (24). A general discussion concerning the certification of Canadian psychologists is found in Bott (10). Landy (30) presents the need for and some of the problems involved in the certification of counselors. A report on the APA placement activities was prepared by Ley (31).

Professional Ethics. Two articles present suggested codes of ethics for psychologists. The one for consulting psychologists was prepared by Bixler

and Seeman (8); the one for professional psychologists was formulated by the Minnesota Society for Applied Psychology (36).

Psychologists' Salaries. Trends in psychologists' salaries for 1940, 1944 and 1945 were studied by Wolfe (51). A survey of the 1945 salaries of 74 Connecticut psychologists was made by Burnham (11). Badger (4) reports on the 1946-1947 salaries of college teachers (including psychologists) of all ranks, types of institutions and geographical areas. Salary ranges for some positions are mentioned by Ley (31). Salary ranges for personnel workers are discussed by Darley and Berdie (16); those for child welfare workers are presented by Fredericksen (21), and those for clinical psychologists in the VA program are listed by Morgan (38).

REFERENCES

1. Anonymous. Stipends for graduate students in psychology and related fields. *Amer. Psychologist*, 1948, **3**, 20-29.
2. ARMSTRONG, CLAIRETTE P. On defining psychology as a profession. *Amer. Psychologist*, 1947, **2**, 446-448.
3. ARNOLD, D. L. Qualifications of a guidance counselor. *Purdue Univ. Stud. higher Educ.*, 1946, **55**, 8-19.
4. BADGER, H. G. Administrative policies governing the salaries of college teachers. *Bull. Amer. Assn. Univ. Professors*, 1947, **33**, 443-463.
5. BAYTON, J. A. Opportunities for Negroes in psychology. *Amer. Psychologist*, 1947, **2**, 207-208.
6. BELL, H. M. Analysis of summer courses for counselors. *Occupations*, 1948, **26**, 240-244.
7. BIRD, C., HERON, W. T., MEEHL, P. E. AND PATERSON, D. G. The foreign language requirement for the PhD. *Amer. Psychologist*, 1947, **2**, 136-138.
8. BIXLER, R. AND SEEMAN, J. Suggestions for a code of ethics for consulting psychologists. *J. abnorm. soc. Psychol.*, 1946, **41**, 486-490.
9. BLOCKSMA, D. D. AND PORTER, E. H., JR. A short-term training program in client-centered counseling. *J. consult. Psychol.*, 1947, **11**, 55-60.
10. BOTT, E. A. Problems in the certification of psychologists. *Canad. J. Psychol.*, 1947, **1**, 3-13.
11. BURNHAM, P. S. Connecticut psychologists survey their 1945 earnings. *Sch. & Soc.*, 1947, **65**, 107-110.
12. CAMPBELL, H. M. The role of the clinical psychologist in Veterans Administration mental hygiene clinic. *J. clin. Psychol.*, 1947, **3**, 15-21.
13. CHALLMAN, R. C. The clinical psychology program at Winter V. A. hospital, the Menninger Foundation, and the University of Kansas. *J. clin. Psychol.*, 1947, **3**, 21-28.
14. CHENEY, C. O. AND STRONGIN, E. I. The psychologist's contribution to the psychiatric hospital. *Amer. J. Psychiat.*, 1946, **103**, 65-68.
15. CLARK, R. A. Psychologist and psychiatrist. *J. Personality*, 1946, **15**, 101-104.
16. DARLEY, J. G. AND BERDIE, R. F. *The fields of personnel work*. (2nd Ed.) Chicago: Science Research Associates, Monograph Number 20, 1946.
17. DENNIS, W. Psychology as a profession. In Dennis, W., et al., *Current trends in psychology*. Pittsburgh: Univ. of Pittsburgh Press, 1947. Pp. 1-15.
18. DOSIER, C. Report of roundtable on internship and training of clinical psychologists. *J. clin. Psychol.*, 1947, **3**, 184-190.
19. DUDYCHA, G. J. A bibliography on careers in psychology. *Amer. Psychologist*, 1947, **2**, 376-383.
20. FLANAGAN, J. C. Personnel psychology. In Dennis, W., et al., *Current trends in psychology*. Pittsburgh: Univ. of Pittsburgh Press, 1947. Pp. 138-168.
21. FREDERICKSEN, H. H. Desirable qualifications for child welfare work as recommended by public and private child welfare agencies. *Soc. Serv. Rev.*, 1946, **20**, 198-206.
22. GREGG, A., et al. *The place of psychology in an ideal university*. Cambridge: Harvard Univ. Press, 1947.
23. HAWLEY, P. R. The importance of clinical psychology in a complete medical program. *J. consult. Psychol.*, 1946, **10**, 292-300.
24. HILGARD, E. R., et al. Annual report of the Policy and Planning Board of the American Psychological Association: 1947. *Amer. Psychologist*, 1947, **2**, 191-198.
25. HOLZBERG, J. D. A practical program of in-service training for military clinical psychologists. *J. clin. Psychol.*, 1946, **2**, 341-347.
26. HUTT, M. L. An analysis of duties performed by clinical psychologists in the army. *Amer. Psychologist*, 1947, **2**, 52-56.
27. KELLY, E. L. Research on the selection of clinical psychologists. *J. clin. Psychol.*, 1947, **3**, 39-42.
28. KELLY, E. L. Clinical psychology. In Dennis, W., et al., *Current trends in psychology*. Pittsburgh: Univ. of Pittsburgh Press, 1947. Pp. 75-108.
29. KUBIE, L. S. *Training in clinical psychology*. New York: Josiah Macy, Jr. Foundation, 1947.
30. LANDY, E. Certification of counselors. *Occupations*, 1948, **26**, 249-250.
31. LEY, ENID S. Personnel placement activities of the APA: report for the year 1946. *Amer. Psychologist*, 1947, **2**, 213-215.
32. LIKERT, R. The sample interview survey. In Dennis, W., et al., *Current trends in psychology*. Pittsburgh: Univ. of Pittsburgh Press, 1947. Pp. 196-225.
33. MCQUITTY, L. L. Developing applied psychologists. *Amer. Psychologist*, 1948, **3**, 16-19.
34. Menninger Foundation. The Menninger Foundation School of Clinical Psychology: an experiment. *Bull. Menninger Clin.*, 1947, **11**, 109-140.
35. MENNINGER, K. A. Psychology and psychiatry. *Amer. Psychologist*, 1947, **2**, 139-140.
36. Minnesota Society for Applied Psychology. A proposal for a code of ethics for professional psychologists. *Amer. Psychologist*, 1947, **2**, 246.
37. MORGAN, C. T. Human engineering. In Dennis, W., et al., *Current trends in psychology*. Pittsburgh: Univ. of Pittsburgh Press, 1947. Pp. 169-195.

38. MORGAN, JANE D. Training clinical psychologists in the Veterans Administration. *J. clin. Psychol.*, 1947, **3**, 28-33.
39. RIVERS, D. *Your career in advertising*. New York: Dutton, 1947.
40. ROGERS, C. R. Psychotherapy. In Dennis, W., et al., *Current trends in psychology*. Pittsburgh: Univ. of Pittsburgh Press, 1947. Pp. 109-137.
41. ROSENZWEIG, S. Clinical psychology as a psychodiagnostic art. *J. Personality*, 1946, **15**, 94-100.
42. SEARS, R. R. Clinical training facilities: 1947. *Amer. Psychologist*, 1947, **2**, 199-205.
43. SEARS, R. R. Child psychology. In Dennis, W., et al., *Current trends in psychology*. Pittsburgh: Univ. of Pittsburgh Press, 1947. Pp. 50-74.
44. SHAKOW, D., et al. Recommended graduate training program in clinical psychology. *Amer. Psychologist*, 1947, **2**, 539-558.
45. SKINNER, B. F. Experimental psychology. In Dennis, W., et al., *Current trends in psychology*. Pittsburgh: Univ. of Pittsburgh Press, 1947. Pp. 16-49.
46. SMYTHE, D. M. *Careers in personnel work*. New York: Dutton, 1946.
47. SUPER, D. E. Basic problems in the training of high school counselors. *Teach. Coll. Rec.*, 1947, **48**, 384-390.
48. ULLMANN, C. A. The training of clinical psychologists. *Amer. Psychologist*, 1947, **2**, 173-175.
49. WILLIAMSON, E. G. AND FOLEY, J. D. Counseling in student personnel work. In Harriman, P. L., (Ed.), *Encycl. of Psychol.* New York: Philosophical Library, 1946. Pp. 104-110.
50. WOLFLE, D. Annual report of the executive secretary: 1947. *Amer. Psychologist*, 1947, **2**, 516-520.
51. WOLFLE, HELEN. Psychologists' finances. *Amer. Psychologist*, 1947, **2**, 236-238.
52. WULFECK, W. H. The role of the psychologist in market and advertising research. *J. appl. Psychol.*, 1945, **29**, 95-102.
53. YARBOROUGH, J. V. What industry expects of college-trained personnel workers and what colleges are doing in personnel work. *Tex. personnel Rev.*, 1946, **5**, 62-65.
54. ZERAN, F. R. Professional guidance training as an element in providing educational opportunities. *Sch. Life*, 1947, **29** (4), 9-12.

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Contemporary American and British Psychological Scenes

To the Editor:

I do not feel entitled to express any very definite views on American psychology as a result of my last year's visit. A spectator may see more of the game than does a player, but I doubt if someone who catches sight of a game from the window of a passing train would qualify as a spectator. Another difficulty is that, since I was in America, I have seen Sir Frederick Bartlett's account of his own earlier visit, and I have had an opportunity of hearing Dr. Langfeld give a brilliant survey of contemporary American psychology at the International Congress. In spite of this my impressions last September were very vivid, and I shall try to recall them. I hope you will find these random notes of interest.

Quite early during the Detroit meeting I found myself adopting a partisan attitude. I had been sampling the papers in a more or less random way, and it seemed that there were at least two kinds of psychologist taking part. With one kind I felt quite at home—not that I was hearing something I knew already, indeed I was greatly impressed by the quality and quantity of the work that seemed to be going on—but both the speakers and those taking part in the discussions seemed to be working on the sort of problems that interested me. In some of the other meetings I felt more of an alien. The crowded sessions on clinical topics dismayed me, and I must confess that where I felt competent to criticise, it seemed that a good deal of rather fluent verbalization was going on. My first definite impression was that “real” psychology was being overwhelmed by a militant, politically conscious swarm of clinicians.

As the meeting progressed and I got to know more people, my first impressions were modified in several ways. First of all I discovered that at least some of the clinicians were first rate psychologists in my more traditional sense as well. They were not interlopers, and certainly not all politicians. I heard something too of the efforts being made to work out a training scheme for clinical psychologists, and found nothing there to suggest that an attempt was being made to cash in on a temporary sellers' market. At the end of it all I was not quite sure what to think.

After Detroit I visited a number of laboratories where I was most kindly received. Here again, and I am not talking only of Harvard, it seemed that there were at least two kinds of psychologist and that the differences between them were much greater than those between either of them and scientists in the adjoining fields of physiology on the one hand and sociology on the other.

It is much easier for an outsider to notice this kind of

thing—for instance in the course of one day I visited the laboratory of Tufts College, where I saw the complicated and ingenious apparatus used by Drs. Travis and Kennedy in their study of vigilance, and spent an hour with the Centre for Group Dynamics at the Massachusetts Institute of Technology. As a result, when I came to visit Harvard, the arrangement there seemed quite a reasonable one.

Later at Princeton I felt that something might still be done to hold psychology together. In particular I was very much impressed by a set of demonstrations that Hadley Cantril had rigged up, following the instructions of Dr. Ames. The way in which they related visual perception to action may have relevance to a wide range of problems, and I can see them playing a part in a whole range of investigations from social psychology to a study of brain function.

Those are some of my impressions, and as you see they do not add up to anything very definite. A lot of trouble might well be saved if the word “psychology” were used less widely. Social biology is a useful term for part of the field, and indeed the Harvard people already talk about social relations. Another name might be found for the clinician. After all the physician does not call himself a clinical physiologist. Perhaps when the new training scheme has been fully worked out the medical-nonmedical dichotomy will have disappeared, and the word “psychiatry” may cover both. But that consummation will take some time I should say.

JAMES DREVER, JR.

University of Edinburgh

To the Editor:

Thanks to the generosity of your Association, I have been able to visit many psychological departments in the Eastern half of your country, as you know, a privilege capped by the invitation to lecture at the University of Chicago, a blessing and boon I am now enjoying. I doubt, however, whether this really fits me any the better to discuss the current trends in psychology here, in comparison with those in Great Britain, for gratitude and loyalty are scarcely the best of companions for soundness of judgment, or for an unflinching critical regard.

However, it would be a mistake to think that psychology here and in Great Britain is much the same kind of thing. There is a vast enthusiasm for psychology here, and a jostling delight and novelty in the subject, that is totally lacking in the Isles. I need scarcely say that psychology is already part of your general culture whereas nothing of the kind has even begun to happen in Britain. Our respective universities are not even

interested in the same kind of subject matter: there is nothing in British psychology, for example, to compare with your preoccupation with theories of learning, with conditioning, with rat colonies and comparative psychology, or with the wide ramifications of mental tests and student counseling. Your teaching in psychology is in many ways more comprehensive than we in Britain can ever hope to make it: not only do you teach more, but you have more to teach. It is true that the visitor is apt to think that you spoon-feed your students. Your PhD, for example, is a glorified hamburger indeed in comparison with the hard and dry crust that we offer to the PhD student in Great Britain.

We assume in the Isles, perhaps, a more scholarly attachment to our subject. The great names of Hobbes, Locke, Hume, Berkeley, Hartley, the Mills, and Bain, and subsequently Galton, Pearson, Stout, and Spearman, still matter in England; and Scotland is just as proudly insinuating about its Reid, its Dugald Stewart, Brown, and Hamilton. The learned treatises from Britain, in recent decades, bear witness to these influences. In the case of Scotland, for example, perhaps the one imposing book of the past few decades is Drever's *Instinct*; and does it not breathe the very air of Dugald Stewart? And isn't it rumoured that Sir Cyril Burt sleeps with volumes of Mills under his pillow? In any case, his *Factors of the Mind*, Spearman's *Nature of Intelligence*, and Stout's *Analytical Psychology* are steeped deeply in the learning of these great historical names in psychology. Bartlett's *Remembering*, too, is redolent of the images and ghost of Berkeley. But something of this same historical nostalgia is felt throughout British psychology. Only Professor Pear's voice cries in these cultured fields for studies on such intriguing matters as the social psychology of cosmetics, dishwashing and the like. The philosophers in Britain, of course, won't let these great historical names rest; and, whatever the reason, psychology hasn't really broken with philosophy in Britain. But it is this that gives the Isles something of their archaic, but richly flavoured quality in matters psychological.

Clearly, then, the scenes here and in Britain are distinguishable. Even within the British Isles, of course, there are differences, just as there are here in America. The Scots, for example, are much more coherent and more generous about psychology than we are in England. You have probably heard, for example, about the project, under way, to test the I.Q. in some degree of every child of a particular age range in all Scotland: the fact that every psychological and educational department, and almost every school, is directly or indirectly involved in the scheme, is sufficient evidence, I think, of this cohesion and friendly coöperativeness in Scotland. Moreover, if one brings to mind the Scotch psychologist, cold in his kilts, and Binet-Simon in his sporan, waiting on the

mainland at Murrandrillochit, anxiously scanning the sunlit western sea, waiting for the annual arrival of a lonely crofter's child from the almost inaccessible Isle of Lona-madrummoch, little more need be said about this cohesion, not to mention the pride in her kith to which it is attributable. But it is to Professor Thomson at Edinburgh, perhaps, that most that is scholarly, generous, and thorough, colours the contemporary Scottish scene.

In comparison, of course, the Irish lie wholly and totally befogged, fallow and becalmed. Few there, if any, even know the word psychology, confusing it with fishing or something of the kind, for which they are to be forgiven, for the fishing is very good indeed in Connemara. And we English? Only a thoroughly intuitive extravert of an Englishman could dare to appraise the English scene. But we are not, I hope, negligible. The psychological laboratory at Cambridge is surely second to none in the world. And Oxford University, traditionally the home of lost causes, has at last been very generous to psychology: it is too soon to speak of its effects, but a new Honour School of Psychology, Philosophy, and Physiology, backed by all that Oxford has to offer of prestige and rich collegiate life, will make itself increasingly felt. The combination of psychology and philosophy in one Honour School, in particular, which is so much favoured by the Heads of the Oxford Colleges, will be watched with the greatest of interest: not only does it afford another illustration of the historical nostalgia to which I have drawn attention, and to a scholarly purpose in English psychology, but, of course, it is meant to mark the School sharply from the more empirically orientated Cambridge. America, if I am not mistaken, could do with at least a flavour and seasoning of this same philosophical and scholarly interest, and I hope that every opportunity will be taken to see that a fair proportion of your Rhodes Scholars enter this School at Oxford, to sip at Corpus Christi, perhaps, or at Brasenose, or Christ Church, the portly wine and the glinting sherry of discourse, as was done by Locke, by Titchener, Stout, and McDougall, and more recently by Wm. Brown, Flugel, and Burt. As for London, the psychological departments there have to overcome physical difficulties comparable with those in the universities of Germany. But the birthplace of factorial analysis, used by the Spearman school to prop and support a broad historical sweep of psychology, is surely to be more than an Elysian field for the ghosts of Galton, Pearson, Spearman, and Myers. These stood for the essential spirit of science: one might expect London to be less the victim of historically-rooted value systems, such as penetrate, however subtly, through the ancient Scotch universities, and at Oxford and Cambridge. Nor could we leave London without making mention of the Tavistock Institute of Human Relations: this would not

wish to pretend that it is cast in the classical mould of the great names I have just mentioned—indeed it rather prides itself in not being scientific at present, and it is not quite sure that it wishes to be so in the future—but it is enthusiastically alive, and, if anything, is London's psychological showpiece at the moment.

All these English developments and trends, nevertheless, do not add up to the friendly and enthusiastic milieu that is so characteristic of American psychology. English psychology is perhaps a little at odds with itself, a thing of bits and pieces. It is not ungracious, but it is a little ungenerous in its institutions: the social distance from Oxford and Cambridge on the one side to London and the Provinces on the other is a mighty long way, and this has a deep, and inevitably a disruptive, effect upon the psychological scene in England. There is nothing quite like this in either Scotland or in America.

Against this background, then, is there anything I dare sing about the American scene, other than the laudatory? Your psychology, in its institutions, outlook, and social position, has achieved a majority, and maturity, never before even remotely aspired to anywhere or at any time in history. The infiltration into it of the British nostalgia for scholarship and history would, I think, enrich and broaden the undergraduate education of your young psychologists; but heaven forbid that the irrational value-systems that go with it are ever allowed to influence your American way of things psychological. The future is surely with the Lashleys, Hulls, and Thurstones, if not with the Kinseys. Social psychology, of course, has become something of a fashion, but it is a sign of the strength of your psychology, I fancy, that the ablest young brains are taking hold of this, the newest of the psychologies.

And, if I may drop from this high plane, I confess that it has been a particular delight to read, for the first time (for many of your journals must have reached the depths of the Atlantic during the war), some papers on methodology in psychology, on operationism, the concept of interactionism, the environmental probability notions of Brunswik, and on the applications of Fisherian factorial design to experiments in psychology. Fisher's work is more widely known here than in psychological circles in Britain. Your intense interest in clinical psychology, which so bothered my distinguished friend from Cambridge, I see in a rather different light: I feel that the forthcoming symposium on testing and statistical methods in the field of clinical psychology (to be held at Cleveland in December, under the auspices of your Statistical Society), is so much to the point that all must be fair and promising in this field. Perhaps a rather less naive and narrow regard of tests, however, and a greater eclecticism in the psychotherapies, is called for in this part of the American scene.

It has become commonplace to say that your students

are over-taught, over lectured-at. I am now a little sceptical about this. After all, you have much to lecture about. And I can find no evidence that your students, on this account, are unable to think for themselves: on the contrary, more sound projects for PhD researches have been brought to me by graduates here in Chicago than ever I have had from students in England. I confess, moreover, to a high regard for non-directional techniques in seminars and colloquies, and although I suspect that they induce a certain verbosity, of almost inflationary dimensions, the intentions are healthy, and the cost of better understanding is not, as yet, too high.

I like the stand taken, too, for giving some distinctive professional training to the PhD student. But too much specialisation, I think, would be a mistake. It should be possible to give a great deal of common ground to all PhD students, so that, by adding just a little more to the well-trained (and well-chosen) trainee, he could be made (or could make himself) into a highly useful clinical, or social, or educational, or industrial, or any other psychologist, or all of these at once. The essence as well as the core of professional training should, I think, be techniques and theories common to all the applied psychologies, rather than intensive training to the point of perfection in any specialty. This means, no doubt, closer attention to general theories which underlie the techniques. Thus, the study of personality and mental testing is pretty well common to all the applied psychologies; and it therefore seems a pity that factor-analysts on the one hand, and idiographists and ego-structuralists on the other, are represented at present as in warring camps. There is surely a body of highly significant theory here, supporting techniques of considerable penetration, which requires calm presentation to all applied psychologists. But similarly for much else. Methodology should be studied on its own account, and sensible applied statistics, together with firmly based studies of the major applied techniques, all need bringing to heel for the ready understanding of every brand of budding applied psychologist. Overspecialisation, like skill at billiards, should be regarded as a sign of a mis-spent youth.

None of these remarks, however, really touch the heart of psychology in America. Your journals, in their vertiginous abundance, if I might borrow the words from Jung, illustrate very well a trend for which I feel a natural rapport, but against which I have tried a little to fight shy. I refer to the typical extraverted thinking, that, brought face to face with facts, cannot see wood for trees, which characterises many of the articles in these journals, and which is perhaps no less characteristic of your psychology in general. This is perhaps naughty, and an unfair thing to say. But I recently had occasion to read some twenty articles on fatigue and related matters, in the Library of Congress at Washington, fruits of

much work by your psychologists during the war, and all of it put together gave me less insight than a single brief article by an English psychologist, facing the self-same questions, during the same war. As Jung put it in his now little-read *Psychological Types*, when extraverted thinking is subordinate to objective data, it loses itself. There is, if I may say so with some uneasiness, something of this underneath the enthusiasm and jostling friendliness that is so engrossing a feature of your psychological scene. All of which may seem to reinforce the suggestion that a little more introversion, in the way of a nostalgia for great historical names and theoretical preoccupations, might have been helpful in the early education of your

psychologists. But the mood of your psychology is inevitably a reflection of the culture in which you live; and yours in America is not apt to idolize fatherly figures, so that your psychology will remain extraverted, willy-nilly. I like it that way. Meanwhile British psychology will continue to look back over its shoulder at the ghosts of the great names: you see, we in Britain are not so free of, or with, our fathers, and the poet, if no other, can perhaps discern along with our affected scholarliness, a certain awe, something of gentle guilt and furtiveness in our backward glances. In short, we are not quite grown up.

WILLIAM STEPHENSON
University of Chicago

Listing of Professional Psychologists in the Classified Telephone Directory

To the Editor:

In view of attention given recently to the subject of "The Public and Psychology" in the *American Psychologist*, and particularly the article, "Private Clinicians in Los Angeles," published in the April number, it may interest readers to know of one new development in the Los Angeles area. Members of the Committee on Public Relations of the Southern California Psychological Association met with representatives of the Pacific Telephone and Telegraph Company to investigate the feasibility and desirability of members of the association who accept private practice being listed together as such in the Classified Telephone Directory. The plan was presented to the Association at a meeting in February. Following approval by the Association, a small committee was appointed to prepare a suitable emblem as required for group professional listings, to contact members who accept private practice and who desired to be listed, to arrange for uniform terminology, and to work out details with the telephone company.

As a result of this action, the June, 1948 edition of the Los Angeles Classified Directory carried the following listing under the general heading, "Psychologists."

SOUTHERN CALIFORNIA PSYCHOLOGICAL ASSOCIATION

An association of qualified professional Psychologists, Ph.D., organized to maintain high standards and to promote ethical practices in Psychology.

"WHERE TO CALL" MEMBERS

An emblem, circular in form with the letter ψ in the center and the words "Southern California Psychological Association," appears at the right of the above legend.

Beneath the legend appear the names of fifteen mem-

bers who asked to be thus listed and who agreed to share with the Association the expense of this group listing. Fields of specialization were given as follows:

Clinical psychology (without any other area specified)	3
Testing-Clinical Psychology-Child Psychology	1
Clinical Psychology and Child Psychology	1
Clinical Psychology, Psychodiagnostic Testing	1
Counseling-Clinical Psychology	1
Industrial Psychologist	1
Business and Industrial Psychology	1
Vocational Psychology-Test Construction	1
Psychological Counseling	1
Psychological Counseling-Family Relations	1
"Referrals Only" (No area specified)	3

A survey of the classified telephone directories of the twenty largest cities (see the *American Psychologist*, June 1948, p. 206) indicates that this is the only such professional listing of psychologists in the United States. It corresponds, in the Los Angeles directory, in a small way to the listing of members of the Los Angeles County Medical Association.

It is to be observed that the total number of fifteen is small as compared to the ninety-one psychologists or psychological agencies listed under "Psychologists" in the same directory. Among explanations of this fact are the following: (1) most of the "psychologists" whose names appear in the directory are not members of the Southern California Psychological Association and are probably ineligible for membership, since a PhD is one of the requirements; (2) the Association did not extend to its affiliates the privilege of being included in the group listing; (3) several members of the Association live outside the Los Angeles area and were not interested in a Los Angeles listing; (4) some members accept private practice in their homes and do not have a business telephone as

required by the telephone company for inclusion in the Classified Directory; (5) some members give their chief attention to teaching and in view of the fact that they devote only a small portion of their time to private practice did not desire to be listed; and (6) a few qualified

professional psychologists in the area have not applied for membership in the association as yet.

J. A. MORRIS KIMBER

Chairman of Committee on Roster

Southern California Psychological Association

Professional Ethics for Women Psychologists

To the Editor:

Certain problems of professional ethics arising in connection with the employment of women psychologists have recently come within my personal experience.

In the past two years I have received six job offers. Of these, one was a good position which I could not accept for geographical reasons, one involved low pay for work for which I am not specially competent, and the remaining four involved compensation in whole or in part by what the King of Barataria called "the culminating pleasure that we treasure beyond measure, the gratifying feeling that our duty has been done." The last four employers were two university departments, an organization of psychologists, and a government agency. Is it unpatriotic for a woman to ask "a day's wage for a day's work"?

In one case the employer frankly wished to use me as an alternative to hiring a man at a decent salary.

While the employers pretend to believe that a woman's professional motivation is much more disinterested than a man's, they also reveal a more realistic attitude. One way or another, the hint is likely to be made: If you ever wish us to offer you a good job, you had better work for us now for nothing, or for whatever we offer.

First, note the fact that a married woman has lost most of her bargaining power if she is unwilling to move her residence to take advantage of the best offer. Next, note the anti-nepotism rule which affects wives of instructors in many universities. This rule is apparently intended to rescue administrators from the pressure toward hiring incompetents, but it can hardly achieve that end. Its result is rather that the faculty wife who is given a mar-

ginal job is expected to feel indebted to the university for the opportunity to serve.

The employer who exploits the married woman's handicap by offering her a job whose salary is clearly incommensurate with her skills and services presents her with a difficult decision: Will the employer really feel indebted to her and be more disposed to give her an adequate job later? Or will he feel that since her services can be had cheaply, it would be needless extravagance to pay her adequately?

When a woman accepts such a job, she may be playing the role called, in other contexts, a "scab." It is an economic fact that a cheap labor source tends ultimately to lower the standards of pay for the whole group, favored and unfavored alike.

On the other hand, every woman has an obligation both to society and to other women to use the skills she has achieved. One male psychology professor has reminded me that when the question comes up of awarding a graduate assistantship to a woman, every woman who has left the profession to raise a family after receiving a PhD degree is used as an argument against the award.

No individual woman can do much to solve the ethical and practical problems raised here. Each employer can contribute to the solution of the problems by not offering salaries to women that he would be ashamed to offer to men of the same skills and for the same services. Another constructive solution is the provision of a variety of respectable parttime jobs. An individual employer cannot undertake this task. It is properly the concern of the profession as a whole.

JANE LOEVINGER

Washington University School of Medicine

Notehand for Psychologists: Further Comment

To the Editor:

Professor Wells (6) has suggested Speedwriting and the Phillips Code as foundations for notehand systems adapted to typescript in contrast to Professor Taylor's system of notehand (4). Possibly Speedwriting or the Phillips Code is preferable for one who is writing so much that the extra time required in learning makes little difference; but for those psychologists, psychology students and others who do not want to spend so much time in such learning, Professor Taylor's notehand seems more

suitable, especially if somewhat modified. This will be pointed out in the discussion and examples which follow.

Speedwriting, the Phillips Code and Professor Taylor's notehand (hereafter simply "notehand") are all relatively easy to learn, permit almost verbatim recording and consequently make possible easy recall even after a long lapse of time. Slight changes in notehand would make it as well as the other two suitable for both writing and typing. Notehand has the additional advantage, however, of greatest ease of learning and therefore also of

communication to others who have only very slight acquaintance with the system. As Professor Taylor rightly says, "What is needed is a system of abbreviations which can be learned easily and can be read by anyone with a list or with a little practice" (4).

It takes considerable practice to master the Phillips Code (3) with its long list of abbreviated words and Speedwriting (1) with its system of equivalent letters or other symbols for the usual English letter combinations; while notehand with its limited though expandable list of words abbreviated, is based on a few simple rules: (1) Every word abbreviated is either the first letter or letters, or the first letter and other characteristic letters, with only seventeen exceptions, of which seven are conventional symbols given in dictionaries. (2) A word whose abbreviation is a word is followed by a period. (3) First letters of nouns are capitalized. (4) Proper nouns are underlined. (5) Institutional structures and blood kin are encircled. (6) An apostrophe within an abbreviation indicates omission of letters (this is applied to few abbreviations). (7) The first word of a sentence is written out in full.

A few modifications of these rules render the system practical for typing as well as writing by hand: (1) (Referring to rule 1): Use v instead of ✓ for "of," ∴ instead of ∴ for "therefore," and pgf instead of ¶ for "paragraph." (4) Do not underline proper nouns. (5) Do not encircle institutional structures and blood kin.

Other modifications might be made, not for typing but merely for simplification. (3) It is difficult to see the value of capitalizing the first letters of nouns, so lower case might well be used. To avoid the few identical abbreviations which might result from this change, different characteristic letters may be retained in the abbreviation. For example, instead of Sc = science, sc = scientific and Sc't = scientist, substitute sci = science scic = scientific and scit = scientist. This leaves sc = schizophrenia and sce = schizophrenic (not in the notehand list), which incidentally conform to Sc as used for the schizophrenia scale of the Minnesota Multiphasic Personality Inventory, thus helping to standardize abbreviations within the psychological profession. (6) The necessity for an apostrophe within an abbreviation can be obviated by retaining distinctive letters. Rules (2) and (7) offer no particular difficulty.

Although the most frequent ten or twenty words in general writing (2) are short anyway, others of Melvil Dewey's abbreviations could be incorporated even when they violate a rule; t = to, too; b = be, been; h = has, have; z = is, as; and e = the (easier to write than "t" of notehand).

To evaluate adequately the various systems, experimentation is of course needed, but at least certain judgments can be tentatively made. Basis for them is shown

in the examples below which were selected to illustrate some of the principles of the different systems.¹

It is surprising, in view of the emphasis on typing and outlining as writing and notetaking tools in the secondary schools, that so important a technique as notehand has not been widely taught, at least in college preparatory courses. But if the secondary schools have missed an opportunity here, have not also many college psychology courses which devote some time to topics such as learning and study habits?

UNABBREVIATED	PHILLIPS CODE	SPEED-WRITING	NOTEHAND (TAYLOR)	NOTEHAND (SEYMOUR)
aggressive	agv	Ag'v	agg've*	aggv
anything	ayg	n'g	athg	athg
author	au	A	Au	au
determine	dtm	Dm	det	det
determined	dtmd	Dm	detd	detd
develop	dvp	dvp	dev	dev
development	dvp'm	dvp-	devt*	devm
discriminate	dkm	dskm;	discrim	discr
intelligent	ijt	Nj	intel't	intgt
physical	phl	fsK	phy'l	phsl
politics	plx	plTs	Pol	pol
position	pon	psj	Pos'n	posn
relation	rln	rlj	Rel	reln
sufficient	suf	sfj/	sufft	suft
understand	uk	Us-	ustd	un:d

* Not given in source; derived according to principles of the system.

REFERENCES

1. DEARBORN, E. B. *Speedwriting: the natural shorthand*. New York: School of Speedwriting, Inc., 1937.
2. DEWEY, MELVIL. Office efficiency. In H. P. Dunham (Ed.), *The business of insurance*. New York: Ronald Press, 1912, vol. 3, 272-316 (includes one hundred notehand breves).
3. PHILLIPS, W. P. *The Phillips code*. New York: Telephone and Telegraph Age, 1914. Revised.
4. TAYLOR, W. S. Notehand for psychologists. *Amer. Psychologist*, 1947, **2**, 106-108.
5. TAYLOR, W. S. Notehand for psychologists. (Northampton, Mass.: 1947), mimeo.
6. WELLS, F. L. Professor Taylor and the problem of notehand. *Amer. Psychologist*, 1947, **2**, 525-527.

RICHARD B. SEYMOUR

University of California, Berkeley

¹I have compiled a list of abbreviations of about 375 basic words (and forms derived from them) in psychological writing, most of which appear in Warren's *Dictionary of Psychology*; they were selected on the basis of (admittedly subjective) judgment of (1) frequency of occurrence and (2) length of word as justifying abbreviation. This list may be secured by sending 15 cents (stamps acceptable), to the author at the Dept. of Psychology, University of California, Berkeley 4, California.

Advantages of a College Education

To the Editor:

The data for the enclosed item were contributed by one of our counselors and promptly published in a daily column (It's News to Me, by Herb Caen) of the San Francisco Chronicle. Transcription from the original announcements is correct except that the required experience is as clinical psychologist in a psychiatric agency.

THESE FOOLISH THINGS:

The advantages of a college education are obvious. For instance, the S. F. Civil Service Commission recently announced that applications are being accepted for a couple of jobs in the City Govt. The first opening is for

a Senior Psychologist. Minimum requirements for this post are a Master's Degree in Psychology, PLUS one year's experience as a clinical psychiatrist, OR an additional degree of Doctor of Philosophy. Salary: \$350-420. The second opening is for the job of Inspector of Horses and Equipment in the Police Dept. The minimum requirements for this one are even more stringent, and I quote: "One year's paid experience supervising or assisting in supervising a large stable . . . or two years' experience in the training of horses and instructing in horsemanship." Salary: \$372-\$444.

MARIAN R. BALLIN

Veterans Counseling Center, San Francisco

Ethics in Experimenter-Subject Relationships

To the Editor:

Every student of clinical psychology is expected to learn and to adopt certain ethical principles which will govern his relationships with persons who come to him for help. A Committee on Precautions in Animal Experimentation exists as a constant reminder to the animal psychologist of his humane obligations. However, the experimental psychologists who employ human subjects appear to have paid little formal attention to the problems of ethics which confront them in their relations with these subjects. Such problems arise in the use of procedures dangerous to life or physical health, procedures which produce panic, extreme frustration, or other strong emotional effects, and procedures which involve deceiving the subject on points of fact

concerning the experiment or concerning things beyond the experiment itself. The published literature offers instances of a possibly questionable nature in each of these three classes; although experiments of a physically dangerous kind are undoubtedly rare, various amounts and degrees of frustration, invidious comparison against "norms," deception in great variety, etc., are far from uncommon. The question arises whether example and good sense are now sufficient, with the present extension of experimental method to the study of every phase of personality, or whether the determination of what is "questionable" should not be guided by an explicitly formulated code of ethics for the experimentalist.

FRANCIS W. IRWIN

University of Pennsylvania

Student Affiliate Page

REPORT OF THE STUDENT AFFILIATE SESSION AT THE EPA MEETING

A special informal session for the Student Affiliates was held at the EPA meeting on April 16th at Temple University, Philadelphia, with about thirty students in attendance. Opportunity was provided for the interchange of ideas—particularly ideas relating to research—between students with similar interests, and for the elicitation of suggestions for the guidance of the Committee on Student Affiliates in gearing its activities to the needs of the students. Walter C. Shipley was chairman.

STUDENT AFFILIATE MEETING AT BOSTON

A student affiliate meeting was held at the annual meeting of the American Psychological Association, at the Hotel Statler in Boston, Sept. 9, 1948, with Chairman Francis P. Robinson of the APA Committee on Student Affiliates presiding, and two other APA members of the committee, Walter C. Shipley and Robert L. Thorndike, present. Approximately 30 students—most of them affiliates—attended. Something over 16 institutions covering a wide geographical range which included Tulane University, the University of Alabama, the University of Omaha, and Loyola University, as well as others nearer to Boston, were represented.

The meeting, which was of the informal, open type, was begun with a brief period of introduction in which each person identified himself to the group with respect to institution and major field of interest, and then was thrown open to general discussion of

ways in which the needs of the affiliates could better be served. Topics discussed included ways and means of calling the student affiliateship to the attention of greater numbers of eligibles (it would seem that many have not yet heard of it); the possibility of asking department chairmen to appoint faculty members to serve in a liaison capacity at their respective institutions; the relationship between the student affiliate program and existing psychology clubs including Psi Chi; the possibility of setting up an organization of student sub-committees; types of student affiliate programs to be held at regional and national meetings; and ways and means of communicating within the group.

WALTER C. SHIPLEY,

Chairman, Committee on Student Affiliates

BULLETIN ON MINOR RESEARCH PROBLEMS

Students at Ohio State University have expressed a desire to have access to information obtained by other students in carrying out minor research problems. Accordingly, the local chapter of Alpha Psi Delta, psychology honorary, sponsored a bulletin for this purpose; students and faculty members were invited to contribute. The first number (mimeographed) was distributed in May and contained abstracts of reports and reviews of student research. Anyone wishing further information may write Barry Jensen, Department of Psychology, Ohio State University, Columbus 10, Ohio.



Bachrach

RENSIS LIKERT

Director, Survey Research Center, University of Michigan

Chairman, Policy and Planning Board, American Psychological Association

Across the Secretary's Desk

THE POLLS: STRAW VOTES OR SCIENTIFIC INSTRUMENTS¹

The failure of the polls to forecast the last election has raised many questions concerning their accuracy. In the minds of some people even more serious questions are being asked as to whether the basic variables of social psychology, such as attitudes and behavior, can be dealt with in quantitative terms.

These questions might be more disturbing to social psychologists if they had been unaware of the dangers in polling methodology. But social psychologists and statisticians have repeatedly pointed out the inadequacy of the methods employed by the pollsters and the probability of error.

Available evidence indicates that an important cause of the failures of the polls in 1948 was the methodological deficiencies for which the polls, and consumer market research generally, have been criticized for some time. One important source of error is the use of the quota method of sampling. It is not a random method and so is always subject to selective bias. For example, analyses of several samples made by the well-known polling organizations have shown that they consistently under-represent the low income, low educational groups by about ten to twenty percentage points.

The seriousness of this error was pointed to in the report² of the Technical Committee investigating Gallup's 1944 predictions:

(1) The quota-sampling method used, and on which principal dependence was placed, does not provide insurance that the sample drawn is a completely representative cross-section of the population eligible to vote, even with an adequate size of sample. In general, the major defects of the quota-sample method lie, first, in the method of fixing quotas, and, second, in the method of selection of respondents for the interview . . .

¹ This statement concerning the failure of the pre-election polls to predict the results of the 1948 Presidential election was prepared at the editor's request by Rensis Likert.

The January *American Psychologist* will include a discussion of the ethics of the commercial polling agencies which was written by Robert C. Myers several months before the recent election.

² Hearings before the Committee to Investigate Campaign Expenditures, House of Representatives, 78th Congress, 2nd Session on H. Res. 551, Part 12, U. S. Government Printing Office, Washington, 1945.

With respect to the second point, the method provides a freedom of choice to individual enumerators in the selection of respondents within the various categories or quotas. For example, even though the enumerator does obtain the proper quota of persons of a given age or income level, he may unwittingly obtain persons who are not representative with respect to education, church affiliation, employment, attitude toward the war, or other characteristics, and in particular with respect to voting preference or with respect to any other variable being sampled. The possibilities of such unintended bias are in fact recognized by the Gallup organization—namely, in the use of an adjustment based on past voting behavior and in the use of checks which are regularly made with respect to such data as telephone subscription, car ownership, and occupation.

When the quota method of sampling is used, such adjustments may be desirable, but it may be pointed out that it is never possible to know all of the kinds of unintended bias that may actually creep into the sample, and that adjustment for one or several known biases provides no insurance against other biases, some of which may seriously affect the results.

It is not necessary to rely on quota samples, for methods for obtaining random samples are available and being used. The methods usually are called area or probability samples.³

A second important source of error was the assumption by the pollsters that they could apply error formulas computed for probability samples to their samples. They have frequently published statements to the effect that these formulas apply to their polls. These formulas do not apply since their samples are not random. All persons in the universe do not have an equal or known chance to come into the sample; quota samples appear to be biased in the direction of including an excessive proportion of the kind of people that are readily available and are easy or pleasant to interview. Had the pollsters been more consciously aware of the biases in their samples and had they not relied

³ Hansen, Morris H. and Hurwitz, William N. *A New sample of the population*. Bureau of the Census, Washington, Sept., 1944.

Housman, Earl E. The sample design for a national farm survey by the Bureau of Economics. *J. Farm Econ.*, 29, No. 1, Feb., 1947.

Goodman, Roe. *Sampling for the 1947 survey of consumer finances*. Survey Research Center, University of Michigan. *The Labor Force Bulletin*, No. 5, Bureau of the Census, Washington, Nov., 1944.

on these error formulas they certainly would have been less positive in their predictions.

A third source of error in the pollsters' predictions was the use of arbitrary adjustments. The report of the Technical Committee¹ also contained the following:

As a result of the sampling method used and of the inadequate size of sample for a number of the individual State estimates, individual judgment was introduced into the preparation of the election estimates; for example, reliance was placed on historical relationships shown in prior elections. Adjustments based on such factors, though they may yield better forecasts, depend on the judgment of the individual investigator, and should not be confused with the results of polls of public opinion. The use of estimates which combine polling results with the individual judgment tends to invite criticism, especially in the cases of those States where public opinion is nearly evenly divided.

A fourth source of error was reflected in the way the "don't know" or uncertain answers were interpreted. At least one of the polls assumed that the "don't know" group would distribute their votes in the same way as those who told how they would vote. This assumption reflects the inadequate psychological theory and research design generally employed by the polls. It is not adequate to accept the "don't know" answer or any answer at its face value in doing psychological research. Had a careful analysis been made of the motivational forces influencing the probability of *whether* people would vote and *how* they would vote, this analysis could have been used to design the questionnaires. Illustrative of the motivational forces that should have been measured are: attitudes toward the candidates, attitudes toward the issues under discussion, and data showing which issues the different respondents feel are important and which candidate they believe is most likely to deal with the issue in a manner satisfactory to them. Had this approach been used, the data would probably have shown that the "don't know" group were not likely to distribute their votes in the same proportions as those who answered for which candidate they expected to vote.

This approach emphasizing research design implies a more thorough type of interview than the yes-no ballot of the pollster employed in the "stand-up" interview. To get at motivational pat-

terns it is necessary to use indirect questions and intensive interviewing.

The poll results showed more instability in voting plans this year than in 1944. Gallup reported a shift of five and one-half percentage points in the last two months and there was a larger "don't know" group than usual. This instability should have been pointed out by the polls and caused them to be more cautious in their predictions. It is likely that had the polls measured the intensity of attitudes toward candidates and toward issues that they would have hesitated to make such unqualified predictions.

Various other sources of error such as inadequate training and supervision of interviewers were also present. Perhaps the best way to summarize the situation, however, is to say that the polls have been more like straw votes than scientific instruments. They have relied on rule of thumb methods and historical relationships rather than objective, precise methods.

Forecasting the outcome of an election is a far more difficult task than is ordinarily recognized. The single prediction requires making two difficult forecasts. It is necessary to predict both who will vote and how each voter will vote. Considering the difficulty of the problem and the relative crudeness of the methods employed, it is surprising how accurate the predictions of the polls have generally been.

The past success of the polls in predicting elections seems to have had an unfortunate effect. It has lulled the pollsters into a sense of security with their methods. They have given limited attention to the newer improvements in methodology and have done inadequate experimenting with these methods.

The newer methods such as probability or area samples and fixed question-free answer interviewing are more costly than polling techniques. This additional cost, without doubt, has been one of the reasons why the pollsters have not employed them.

When cost limitations compel economy, however, it seems unwise to attempt this economy by using methods which may yield results with biases of unknown magnitude. When economy is necessary, it is better to take such steps as reducing the size of the sample. This will increase the size of the error but so long as objective methods are used, the probable range of error can be computed with confidence.

If any problem in the social sciences is important enough to study, it should be studied with methods which will yield accurate and unbiased results.

REN SIS LIKERT, *University of Michigan*

¹ Hearings before the Committee to Investigate Campaign Expenditures, House of Representatives, 78th Congress, 2nd Session on H. Res. 551, Part 12, U. S. Government Printing Office, Washington, 1945.

Psychological Notes and News

The American Board of Examiners in Professional Psychology is now ready to accept candidacies from those members of the American Psychological Association whose Baccalaureate degrees were received on and after 1 January 1936, who hold the PhD degree, and who can present five years of acceptable qualifying experience in one of the following three professional fields: clinical psychology; industrial psychology; and counseling and guidance. Such candidacies fall in the category in which written and oral examinations are mandatory.

At the time of the original survey made by the Board, in July, 1947, approximately 250 members of the American Psychological Association indicated that they fell in this category, or would fall in the category during the year 1948. Individual letters will be addressed to these psychologists at their last known address, enclosing an application blank.

This present general notice is to inform this group and others who may be interested in applying that application blanks may be obtained from: John G. Darley, Secretary-Treasurer, Psychology Building, University of Minnesota, Minneapolis 14, Minnesota.

In order to prepare a roster for the first examinations of the Board, to be held in the fall of 1949, it is desired that candidates described above file their completed application materials with the Secretary-Treasurer on or about 1 January 1949.

—JOHN G. DARLEY.

The Social Science Research Council has appointed a committee of research authorities to find out why the poll takers were wrong about the recent election. The three largest polling agencies have agreed to open their records for full scrutiny by the committee, which consists of Samuel S. Wilks, director of the section of mathematical statistics, Princeton, as chairman; and James Phinney Baxter, 3d, president of Williams College; Carl I. Hovland, chairman of the department of psychology, Yale; Isador Lubin, chairman of the committee on statistical standards of the American Statistical Association; Frank Stanton, president of the Columbia Broadcasting System; Frederick F. Stephan, director of the study of education, Princeton; and Samuel A. Stouffer, director of the laboratory of social relations, Harvard.

SPSSI has announced a new Edward L. Bernays Award for 1948-49 of \$1,000, to be presented to the individual or group contributing "the best action-related research on some aspect of the problem of improving relations between groups within the United States." The contest is open to all social scientists here and abroad. All research published or completed during 1948-49 will be eligible for the competition, which closes July 1, 1949. Manuscripts reporting completed research, but not yet published, will also be eligible. All reports should be submitted in duplicate to the Chairman of the Intergroup Relations Award, Dr. Gordon W. Allport, Department of Social Relations, Harvard University, Cambridge 38, Massachusetts. Inquiries should be addressed to Dr. Ronald Lippitt, President of the Society for the Psychological Study of Social Issues, Research Center for Group Dynamics, University of Michigan, Ann Arbor, Michigan.

The first three numbers of the 1948 *Psychological Monographs* have been distributed to the 1948 subscribers to Clubs A and C.

Their 1949 dues had been paid on November 22, 1948 by 2193 members of the APA and by 506 student affiliates. December 31, 1948 is the deadline.

The APA office is completely out of certain 1947 and 1948 issues of the journals. As a result, we are unable to replace missing library issues or send complete sets to new libraries. One hundred copies of these issues would probably be all we would need for this purpose, but any number would help. If there are APA members who do not save their journals to make complete sets, the APA office at 1515 Massachusetts Avenue N. W., Washington 5, D.C., would be glad to receive the following issues:

Journal of Abnormal and Social Psychology, 1948, #3 (July).

Journal of Comparative and Physiological Psychology, 1947, #1 (February); #2 (April).

Journal of Consulting Psychology, 1947, #1 (January-February); #2 (March-April).

Psychological Bulletin, 1947, #1 (January); #4 (July); 1948, #1 (January).

W. E. Watson, Graham B. Dimmick, George A. Muench, Frank Pattie and M. L. Billings have been appointed by the Governor of the State of Kentucky to act as a Board of Examiners in the Certification and Licensing of Psychologists in the State of Kentucky.

The Kentucky Legislature passed a bill in the recent session of the legislature, making provisions for the certification of clinical psychologists through a State Board of Examiners of Psychologists. The bill includes a definition of the practice of clinical psychologists, board of examiners, the report of the board to the governor, rating of educational institutions, certification, fees, suspension or revocation of certificate, and use of title and penalties.

The officers and chairmen of standing committees of the Chicago Psychological Association for 1948-1949 are: William A. Hunt, president; J. Anthony Humphreys, vice-president; William C. Krathwohl, secretary; Anna S. Elonen, treasurer; and Martin L. Reymert, member of the executive board. The chairmen of the standing committees are: Robert L. French, Program; William Sloan, Membership; J. L. Hirning, House.

At its annual meeting in December, 1947, the Connecticut State Psychological Society adopted the following resolution:

The Connecticut State Psychological Society shall go on record as approving the following statement of policy: Training designed to develop skill in the administration of individual tests of intelligence and personality should be given only to graduate students or holders of the Bachelor's degree who are receiving internship training, and only under the supervision of psychologists who have themselves received professionally adequate training in testing and test interpretation.

Subsequently, the resolution was mailed to all institutions in Connecticut that offer training of any kind in psychology.

The North Carolina Psychological Association held its fall meeting at Duke University on October 23, 1948, with John W. Macmillan of the Office of Naval Research, Washington, D. C., as speaker.

Raymond V. Bowers has been appointed executive director of the Committee on Human Resources of the National Research and Development Board.

During the past year he served as deputy executive director. The other civilian members of the Committee's full-time staff are Dwight W. Chapman, deputy executive director, and Henry S. Odbert, panel director.

The civilian members and deputy members of the Committee are: Donald G. Marquis, chairman; William C. Menninger, Carroll L. Shartle, Samuel A. Stouffer, Henry Brosin (deputy), Walter S. Hunter (deputy), and Frederick F. Stephan (deputy).

The civilian members of the panels are:

Panel on Human Engineering and Psychophysiology: Arthur W. Melton, chairman; Frank A. Geldard, John L. Kennedy, and Lyle H. Lanier.

Panel on Personnel and Training: Robert L. Thorndike, chairman; John G. Darley, James G. Miller, and Marion W. Richardson.

Panel on Manpower: Philip M. Hauser, chairman; J. Douglas Brown, Meredith B. Givens, Gladys L. Palmer, and Irene Taeuber.

Panel on Human Relations and Morale: Charles Dollard, chairman; Carl I. Hovland, Alexander Leighton, and Hans Speier.

In addition, the Committee and Panels have the following special consultants for expert advice in various areas of their programs: Harry Alpert, Charles W. Bray, W. J. Brogden, F. J. Brown, Kingsley Davis, Douglas G. Ellson, John Gardner, J. J. Gibson, M. J. Hagood, H. K. Hartline, Pendleton Herring, Harold Lasswell, Rensis Likert, Leonard C. Mead, Ernest McCormick, Don K. Price, R. G. Scobee, Arnold Small, J. C. Snidecor, S. S. Stevens, Franklin V. Taylor, Herbert A. Toops, M. H. Trytten, Emmett Welch, Delos D. Wickens, E. C. Wilson, and Dael Wolfe.

Lieutenant Colonel Jack Buel, MSC, USAF Director of the department of psychology, USAF School of Aviation Medicine, Randolph AFB, Texas, has been appointed by the Secretary of the Air Force an associate member on the Committee on Human Resources of the National Research and Development Board.

As a memorial to the late Professor Rudolf Pintner, his friends and former students are planning a revision of his *Intelligence Testing*. Donald G. Paterson is chairman of the Editorial Committee for the revision. To date, the other members are A. R. Gilliland, Gertrude Hildreth, Walter N. Durost,

John A. Long, and Seth Arsenian, chairman of the Memorial Committee. For further information, write to Dr. Seth Arsenian, Department of Psychology, Springfield College, Springfield, Massachusetts.

The Indiana Association of Clinical and Applied Psychologists has announced the election of the following officers in November: Delton Beier, president; Gladys D. Frith, vice-president; Harriet E. O'Shea, Executive Committee, and Walter L. Wilkins, secretary-treasurer. The association passed a resolution reading in part as follows: "... this association puts itself on record as expressing its appreciation to Dr. Harriet E. O'Shea for her constructive leadership and untiring energy in furthering the advancement of professional psychology in the State of Indiana in her ten years as President of the Indiana Association of Clinical and Applied Psychologists ..."

The Psychological Laboratories of the Connecticut State Hospital now consist of the following staff: Jules D. Holzberg, director of the Psychological Laboratories; Eleanor R. Cahen, Salvatore Alessi, and Murray Wexler, staff psychologists; and Muriel Chamoulaud, Frederica Jefferson, and Oscar B. Leibman, psychological interns for 1948-1949.

Other appointments for the current year in the department of psychology of the University of Chicago, which were omitted from the list in the November issue, are: Ward C. Halstead, professor of experimental psychology in the department of psychology and the division of psychiatry of the department of medicine; Austin H. Riesen, associate professor (arriving from Yerkes Laboratories of Primate Biology in 1949); Elias H. Porter, Jr., research associate (associate professor); Anna S. Elonen, assistant professor in the department of psychology and the division of psychiatry of the department of medicine; John M. Butler, instructor and assistant counselor in the Counseling Center; Leota L. Janke, instructor; and William F. Soskin, instructor in the department of psychology and the division of psychiatry of the department of medicine.

Civilian psychologists will be tendered reserve commissions in the Army if they apply and qualify under provisions outlined in Department of the Army Circular No. 210, dated July 14, 1948. The

commissions range from those of First Lieutenant up to and including Colonel, depending upon qualifications and experience. Applicants must be at least 21 years of age and not over 55 and citizens of the United States; previous military experience is not required; they must be professionally engaged in teaching or research and development in theoretical or applied fields. Further information may be obtained from the Adjutant General, Department of the Army, Washington 25, D. C.

In an effort to establish a Reserve Officers' training program for scientists that will be of more interest than the usual Reserve Officer's meeting, the Army is establishing Organized Reserve Research and Development Groups. The Technical Services of the Department of the Army submit to these Research and Development Groups research problems and projects which pose an intellectual challenge to members of the group. Thus, the program provides members a type of training which is in keeping with their scientific and technical interests and competence, rather than a traditional kind of training session in which scientists have little or no interest. To date, eighteen such groups have been organized, at large universities, industrial research laboratories, and so on. The entire program is outlined in Section V, Department of the Army Circular #127, dated May 5, 1948.

Teacher in experimental, about February 1949, rank assistant or associate professor, man, 30 to 40 years, PhD, new PhD acceptable; to be director of laboratory courses in experimental psychology. Salary dependent on experience and qualifications. Apply to Dr. Roland C. McKee, Acting Chairman, Department of Psychology, Syracuse University, Syracuse 10, New York.

Teacher in either experimental or in clinical, about February 1949, rank assistant professor, either sex, age below 40, PhD preferred; to teach general-experimental-animal sequence or to teach and do clinical work. Salary \$3,500. Apply to Dr. P. T. Teska, Chairman, Department of Psychology, Louisiana State University, Baton Rouge, Louisiana.

Clinical psychologist, as soon as possible, rank Michigan Civil Service grade III, either sex, no age limits, MA, four years' experience, one of which may be an internship; to work in Child Guidance Clinic under state mental hygiene program. Salary

\$4020 with semi-annual increases to a maximum of \$4740 after two years. Apply to Dr. Norman Westlund, Director, Saginaw Valley Children's Center, 1501 North Michigan Avenue, Saginaw, Michigan.

Clinical psychologist, as soon as possible, rank assistant or associate professor, man, not over 40, PhD, appropriate experience; to supervise graduate students in clinical psychology and teach psychotherapy and projective techniques. Salary \$3600-\$5000 for academic year, plus consultation fees. Apply to Dr. Axel Brett, Chairman, Department of Philosophy and Psychology, University of Tennessee, Knoxville, Tennessee.

Clinical psychologist, as soon as possible, rank and salary to be arranged; to participate in both formal and practicum aspects of the graduate training program in clinical psychology. Apply to Dr. Chester C. Bennett, Professor of Clinical Psychology, Boston University, Boston 16, Massachusetts.

Clinical psychologist, as soon as possible, rank not stated, MA or PhD, diagnostic testing and some therapy experience with children and adults required; to direct the psychological services of the Peoria Mental Hygiene Clinic. Salary dependent on qualifications. Apply to Dr. Walter H. Baer, Director, Peoria Mental Hygiene Clinic, 300 North Monroe Street, Peoria 3, Illinois.

Civilian clinical psychologists, as soon as possible, rank P-4 and higher (U. S. Civil Service), PhD preferred; MA in psychology demanded, with two years' full-time clinical experience; to serve in the Neuropsychiatric Service at U. S. Naval Hospitals, Naval Training Centers, Naval Disciplinary Barracks, and Marine Corps Bases. Apply to Navy Department, Bureau of Medicine and Surgery, Attn: Professional Division, Washington 25, D. C.

Clinical psychologist, as soon as possible, rank chief psychologist in Community Guidance Clinic which is associated with the Southwestern Medical College, man preferred, PhD and three years' experience or ABEPP certification, to perform usual duties of a head of a university clinic, including research. Salary \$5364. Apply to Dr. Don P.

Morris, Director, Community Guidance Clinic Southwestern Medical College, Dallas 4, Texas.

Commissioned clinical psychologists, as soon as possible, PhD (or nearly) required, for Naval Reserve officers; preference given to those who filled psychological billets in World War II, but previous military experience is not a requisite; to be assigned to Clinical Psychology billets, Neuropsychiatry Service in continental Naval Hospitals, Naval and Marine Training Centers, Re-training Commands, and Disciplinary Barracks. Salary dependent on rank. Apply for information to the Navy Department, Bureau of Medicine and Surgery, Attn: Professional Division, Washington 25, D. C.

Instructor and assistant professor, for January 4, 1949, if possible; either sex; to teach General, Educational and Child. Salaries: \$3600 or more; and \$4200 or more, for eleven months. Applications with complete credentials should be submitted to Paul F. Finner, Head, Department of Psychology, Florida State University, Tallahassee, Florida.

Clinical psychologists at salaries of \$325-375 per month; continuous recruitment. For announcements and applications write to Utah Merit System Council, 428 Atlas Building, Salt Lake City 1, Utah.

Clinical psychologist, last date for filing application is January 10, 1949, rank senior psychologist, man or woman, over 21, PhD, or MA and one year's experience. Salary \$350-420 per month. Write for applications to San Francisco Civil Service Commission, 151 City Hall, San Francisco 2, California.

School psychiatrist, beginning September 1949, MD, three to five years' experience; to serve as school psychiatrist in the New York City Schools. Salary \$8,000 first year; \$9,000 second year; \$10,000 third year and thereafter. Apply for announcement to Board of Examiners, Board of Education, City of New York, 110 Livingston Street, Brooklyn 2, New York.

December 21, 1948 is the closing date for application for the Junior Professional Assistant examination (U. S. Civil Service grade P-1, \$2974) in psychology and in statistics. Students who expect to graduate in June may apply now.

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